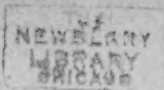


VOL. V.

JULY, 1898.



No. 1.

THE LARYNGOSCOPE

A MONTHLY JOURNAL
DEVOTED TO DISEASES OF THE
NOSE - THROAT - EAR

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3702 OLIVE ST.

ST. LOUIS, MO

OFFICE OF PUBLICATION, ST. LOUIS, MO.

FOREIGN OFFICE: JOHN WRIGHT & CO., BRISTOL, ENG.

[Entered at the Post Office at St. Louis, Mo., as Second-Class Matter, in July, 1896.]

Official Organ American Laryngological, Rhinological and Otological
Society, Southern Section.

Official Organ Western Otological; Laryngological and Rhinological
Association.

Official Organ New York Academy of Medicine, Laryngological Section.

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THE
LARYNGOSCOPE.

VOL. V.

ST. LOUIS, MO., JULY, 1898.

No. 1.

ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding
that they are contributed exclusively to THE LARYNGOSCOPE.)

**SUPRATONSILLAR FOSSA AS THE STARTING POINT OF
INFECTION.**

BY DONALD ROSE PATERSON, M.D., M.R.C.P.

Honorable Physician to the Seaman's Hospital; Assistant Physician and Physician to the
Throat and Ear Department, Cardiff Infirmary, England.

The frequency with which the pharynx is the starting point of infection, both local and general, is responsible in a large measure for the great interest taken in the inflammatory affections of that region, and the question of their origin has risen in importance since bacteriology has shed increased light upon it. So many of the septic inflammations begin as tonsillar affections, or show themselves at an early stage in the tonsils, that attention has been turned in that direction and much discussion has waged around the mode of entrance. Attempts have been made to assign the causation of various inflammatory diseases of the pharynx to particular microorganisms, but apart from some of the specific infections where the conclusions cannot be gainsaid, much obscurity still exists and in not a few instances we systematically meet with more than one variety. However, various micro-organisms have been found producing different stages of this same process and Lemon has urged with much force and has brought forward evidence to show that the old view has still much probability, viz., that many cases which are bacteriologically distinct, are identical from a pathological point of view.

One of the most important practical questions arising out of this discussion is the seat of entrance of infection, and in this connection the tonsils have received special attention. These structures have long been recognized as almost the first to be implicated and though various explanations have been advanced, none are free from objection. Stöhr in his well-known researches on the lymphoid tissue of the tonsil, has shown that a large number of leucocytes are constantly finding their way out of the lymphoid tissue and being shed into the fissures and crypts of the tonsil, the emigration taking place through gaps between the cells. It has been held that those gaps give passage inward to pathogenic microorganisms and set up infection in the gland. This suggestion has much probability in it,



FIG. 1. Specimens of Supratonsillar Fossa; staves indicate the opening.

though there is a difficulty in accepting it as a complete explanation. Any invasion of micrococci would be met by the outgoing stream of leucocytes and should have to assume that the vitality of the latter must be lowered or the efflux checked before the infecting agents could gain entrance to the substance of the tonsil. That such a condition may be brought about, I hope to show, by drawing attention to the importance of the supratonsillar fossa as a point from which microorganisms invade the tonsils and the surrounding tissues, and by pointing out how frequently implicative of that space precedes the inflammatory trouble in the gland itself.

I have already described* this space and the plica triangularis—

*Journal of Laryngology, Rhinology and Otology, April, 1898.

which bears an intimate relation to it—and pointed out its variations and it will not be necessary to give more than a few details here. The fossa was first described by this as an anatomical space which was occasionally to be found just above the tonsil between the pillars of the fauces at the apex of the interstitium. In the development of the parts about the pharynx we have the arcus palatoglossus, formed from the second visceral arch. The palate, growing as a fold from the upper jaw, crosses this arch as well as the corresponding second cleft and divides it into an upper and lower part. The remains of the cleft above the palate forms the fossa of Rosenmüller; below the palate lymphoid tissue develops, forming the tonsil and the remainder of the cleft at the upper part constituting the supratonsillar fossa. This space is therefore the remains of the second visceral cleft and is similar in origin to the Rosenmüller's fossa; whilst the extent of both is influenced by and depends upon the growth of lymphoid tissue. In the case of the latter (also called the pharyngeal recess) the pharyngeal tonsil may encroach upon it and almost obliterate it. The point that I am anxious should be borne in mind is that the fossa we are dealing with, possesses a vesical character and like similar structures is liable to disease.

The plica triangularis, which bears an important relation to the fossa, is a fold of mucous membrane, prolonged from the anterior pillar of the fauces. At its apex above it is lost in the edge of the velum palate, the base disappearing in the root of the tongue. The structure is frequently folded over the tonsil, wrapping it, as it were, in the anterior aspect, while the posterior margin is not infrequently, to some extent, if not altogether, adherent to the gland. On the other hand, it may remain a free edge, and may be pulled forward to permit a view of the parts subjacent. In its upper part it covers the opening of the fossa, concealing it from view, and it may be that the entrance can only be made out when the edge of the plica is displaced by a probe. The importance of this relation lies in the fact that various changes sometimes take place in the plica which affect the outlet of the fossa and convert the space into a closed-in sac with a narrow opening.

As the name implies, the supratonsillar fossa is in intimate relation to the tonsil. In most cases the posterior boundary is formed by the upper part of the gland, which is prolonged upward in the form of a spur. In front we have the anterior pillar of the fauces and the mucous membrane of the soft palate, and the upper part of the cavity strides for a variable distance into the soft palate. The part of the tonsil uniting the fossa shows an arrangement of structure which differs

somewhat from the rest of the gland, a point of some importance. The lymphoid tissue is disposed in a very loose, open network, which contrasts with the compact structure of the lower part of the gland, where it feels firm, is closely packed together, and presents on its surface any of the openings of small size. Moreover, in the upper region within the fossa the tissue is spread out in processes, resembling fingers and toes along the walls of the space, a condition which may be likened to miniature *columnæ cameæ* and *musculi papillares*. The crypts and lacunæ are large and open freely, communicating with each other. They become narrower as they pass into the substances of the the tonsil, whilst some run downwards, to open by

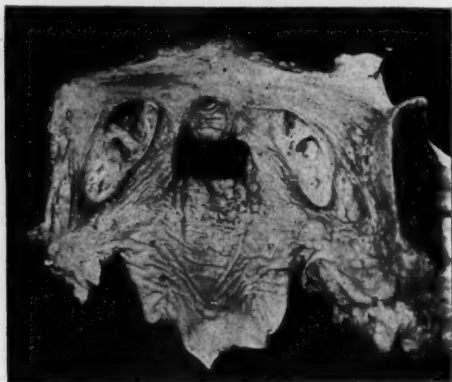


FIG. 2. Pharynx spread out, showing the fossa on each side.

smaller orifices on the surface of the gland. This arrangement furnishes an explanation why the products from the upper follicles and crypts tend to find an outlet in the fossa rather than on the surface of the tonsil. As a result we have the frequent presence of serious plugs in the fossa. The cavity being soft-walled and bounded on all sides by the muscular tissue of the palate, is ever undergoing change of shape, and the secretion in the lower crypts is forced upwards into the more open structure above. There it becomes aggregated into caseous matter and compressed into little rounded masses, which readily undergo decomposition and become evil smelling. These plugs may be extended naturally, or retained for a time, when they

may set up irritation, which ceases when they are removed artificially or otherwise, or they may go on to the formation of a calculus. In this way tonsilloliths originate, and in the majority of cases are located in the fossa and not in an enlarged crypt, as generally supposed.

Following out the relations of the fossa, it may be observed to pass down behind the anterior palatal arch and outwards as far as the lower jaw; on the external or deep aspect of the tonsil it may dip down and come into contact with the deeper structures, such as the superior construction of the pharynx and in several specimens which I have examined, the smooth wall of the fossa composed of a thin layer of mucous membrane was reflected on the deep muscular and areolar tissue. This relation is of considerable interest in view of the inflammatory affections which start in and are largely confined to this peritonsillar tissue. Its extent into the soft palate may be very considerable, reaching almost to its posterior or naso-pharyngeal aspect, and proving a cavity with offshoots jutting in between the muscular layers. It may run upward and inward toward the uvula, and on the anterior aspect come near the surface, being separated from the mouth cavity merely by a layer of mucous membrane.

In a healthy condition of the pharynx and where the opening of the supra-tonsillar fossa is ample, no abnormal products are met with. The secretion from the crypts is squeezed into the space from which it finds a ready exit into the pharyngeal cavity; there is no retention and consequently an absence of tonsillar irritation. Where the fossa is less favorably disposed, secretion is retained and tonsil plugs are formed. These originate from the desquamation which takes place in the crypts and are composed of cast-off epithelium leucocytes, mucus, with little masses of phosphate of lime and colonies of bacteria. Staphylococci and streptococci, and bacilli of various kinds have been identified, having found their way in from the mouth, probably by means of small particles of food or from carious teeth. The plugs vary in size from a hemp seed to a mass as large as a bean; they have a foul odor and when of any size give rise to sense of discomfort, the patient experiencing relief when they are turned out. A decomposing plug may often be observed to set up irritation around the fossa, which subsides on the offending mass being got rid of.

Among the local inflammations which are met with as a result of infection, by far the most frequent are those affecting the tonsils. In lacunar tonsillitis we have an acute infectuous disorder, the mode of origin of which is a matter of controversy. If the tonsil be inspected

in an early stage of this affection it may be observed that the upper part is first involved, the process spreading to the lower crypts—at least the plugs are usually noticed there at a later period. In several patients who have had repeated attacks of lacunar tonsillitis, I have had opportunities of watching the process from the very commencement. It begins as an uneasy feeling about the upper region of the tonsil; then there is some tenderness as well as fulness over the palatal arch and following this one or more of the upper lacunæ show white spots. The fossa is usually filled with caseous material which has lain there for some time, and after cleaning it out and swabbing it with carbolic acid, the attack may abort and the parts speedily return to normal. When the process pursues the usual course the gland becomes considerably enlarged and the crypts throughout filled



FIG. 3. Fossa opened and part of wall held back to show interior. The loose arrangement of the adenoid tissue is shown.

with white plugs. After resolution, the fossa may be found to contain foetid caseous matter and the interior readily bleeds on being brushed out.

In cases where an attack follows intra-nasal cauterization, I made careful observations on two patients in whom lacunar tonsillitis had repeatedly occurred and was set up by each nasal operation. In both I observed it start in the upper part of the tonsil, as if it spread from the fossa, which in both instances lodged cheesy masses. In one case, before further cauterization was done, the preliminary step was taken of scraping out the space and brushing it with trichloroacetic acid; while in the other the apex of the tonsil was punched out to give ample drainage. The result was satisfactory and in both patients I was able to cauterize the turbinals on several subsequent occasions without inducing an attack of lacunar tonsillitis. This

experience, I think, goes to show that the suggestion of intra-nasal infection does not explain their occurrence and that Fränkel's theory of a conveyance of material from the nasal lymph channels into the tonsil would not hold good for all. In the fossa we meet with streptococci and staphylococci as well as other organisms in great abundance; they are present in the plugs which lie in the crypts within the space, and it is surely conceivable that in those who have already suffered from attacks of lacunar tonsillitis any lowering of the vitality of the parts, whether produced by local operative measures, chill or other means, may readily precipitate a further attack. The walls of the fossa are implicated each time the tonsil takes on this inflammation, while the plica becomes more thickened and contracted, leaving the outlet still smaller and affording less room for the escape of the contained products. Each attack leaves its effect behind in an increased hypertrophy of the fibrous tissue, which leads to atrophy of the adenoid structure, and we have subsequently a condition in which there is a comparatively roomy fossa with a narrow outlet in relation to a tonsil possessing but little glandular tissue, a condition in which a natural cure has resulted and attacks of tonsillitis belong to the past.

In peritonsillitis we have an acute inflammation of the loose areolar or connective tissue immediately surrounding the tonsil which rapidly becomes phlegmationous and usually ends in the formation of an abscess. In the majority of cases the soft parts in front of the tonsil and soft palate—that is, around the supra-tonsillar fossa—are involved, and I think there can be no doubt that the disease is set up by infection through that space. In many instances an attack is preceded by lacunar inflammation, and not infrequently the two proceed side by side. "The primary seat of the phlegmon is usually in the cellular tissue immediately above the outer border of the tonsil, in which case the tumefaction extends not only beneath the tonsil but into the tissues of the soft palate" (Bosworth). We have to deal with an infection of the enveloping connective tissue, and it is important here to bear in mind the relation of the space to that tissue and to the soft palate. In several places the lining membrane of the fossa lies directly upon those structures and when stripped off may be seen to be extremely thin. Prolongations of the fossa dip down on the outer or deep aspect of the tonsil, as is represented in Fig. 4, and indicated by the black straw, coming into contact with and lying on the superior constrictor of the pharynx and stylo-glossus muscle. And it is obvious in a fossa with foetid contents that it is not difficult for infective material to pass from it into the areolar tissue around.

In a large proportion of cases the deeper layers of the palate are early affected, and this is explained by the anatomical disposition of the parts. The fossa is prolonged upwards into the soft palate and almost as far back as the mucous membrane on the posterior or nasopharyngeal surface and when inflammatory action starts at one point it readily spreads along the fossa wall and involves the muscular structure of the palate. As already stated, peritonsillitis is frequently started by an attack of lacunar tonsillitis, and other forms of "sore throat," due to scarlet fever, diphtheria, etc., are no less potent causes of it. In all these we have a change brought about in the contents of the fossa and the size of the outlet. The latter is neces-

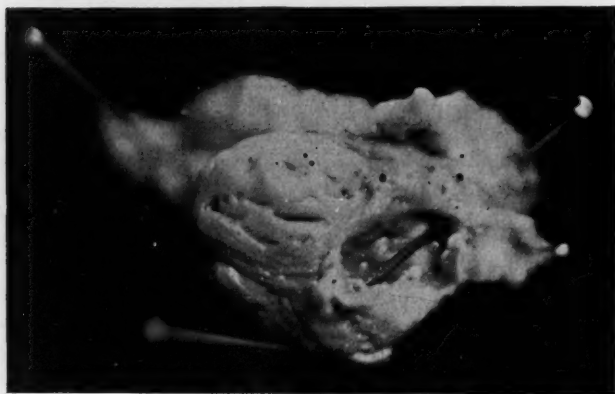


FIG. 4. Fossa opened and disposition of adenoid tissue in the interior is displayed; a black straw has been inserted into a deep prolongation of the space on the outer aspect of the tonsil.

sarily reduced in calibre from the tumefaction of the plica and the neighboring parts, and the consequent retention of the massed inflammatory products in the fossa tends to favor an infection of the deep tissues. There is no need to advance the suggestion, as has been done repeatedly, that adhesions are set up which retain decomposing matter in the crypts. A large proportion of the tonsil plugs naturally find their way into the fossa, and when their free escape from that space is restricted, there is at once formed a potent source of infection and it will require comparatively small causes to start an attack of acute inflammation.

The cellular tissue in contact with any part of the fossa is liable to

infection, and inflammation may therefore be set up at various points. The chief seat is around the main part of the fossa. On the anterior aspect of the soft palate, about the upper and outer region of the tonsil and where suppuration occurs, it points there in ninety-eight per cent of the cases. Where the deep layers of areolar tissue are affected, the superior constrictor muscle of the pharynx is involved; the stylo-glossus is also implicated, as evidenced by the marked pain on attempting to depress the patient's tongue, as well as the internal pterygoid which prevents the mouth being opened to any extent. In fact, one may have as a consequence of inspection starting in the deepest aspect of the fossa, inflammation of the deep muscles of the neck as well as the areolar tissue end; from this then is produced the marked stiffness of the neck and the characteristic attitude the patient assumes. The tonsil itself is lifted out of its bed and the pus when penned finds its way out through one of the tonsillar crypts. In a very small proportion of cases peri-tonsillitic abscess opens posteriorly into the naso-pharynx, an event which finds an explanation in the disposition of the fossa in this region in some instances and the occurrence of phlegmonous inflammation largely occupying the upper part of the soft palate.

A comparison of the pharyngeal and lingual tonsils with the palatal will emphasize this point. Acute lacunar tonsillitis may be observed in both the former; is some as part of an inflammation involving the whole lymphoid tissue of the throat, in others as a distinct attack. But in neither tonsil do we find the recurrent condition which is so marked a feature in the palatal. I have indeed observed lacunar inflammation of the pharyngeal tonsil on more than one occasion in the same individual, but each time it was associated with a similar affection of the palatal gland. Peritonsillitis affects the pharyngeal and lingual tonsils, though the extreme rarity with which it is met is not due to any difference in structure, for in all three tonsils there is a similar junction of lymphoid surrounded by cellular tissue. Rather must we look for it in the absence of a space like the supra-tonsillar fossa which retains infective material and acts as a persistent source of recurrent attacks of peritonsillitis until drainage is established.

In septic pharyngitis, as hospital sore throat, we have another affection which frequently starts from the fossa. In an early stage patches may be observed on the tonsil and the space filled with caseous plugs. Cleaning out this infective material affords much relief and often leads to a cessation of the attack. It is possible that the graver condition, known as Senator's phlegmonous inflam-

mation, may start in a similar manner and rapidly extend to the deep tissues of the neck. Where the fossa reaches to a considerable depth and the microorganisms possess very virulent powers, the process may proceed to the loose areolar tissue outside the constrictors of the pharynx and to the tissues along the carotid sheath. It seems to me that the deep relation of the fossa throws considerable light upon the causation of these serious affections and ought not to be lost sight of in the consideration of their mode of origin.

A lesser form of infection, which undoubtedly spreads from this space, is pharyngomycosis. The white spots found by the development of the *leptothrix buccalis* represents an affection which is extremely difficult to eradicate. Measures, such as scraping and honing, are of comparatively little value; recurrence readily takes place and the mycosis breaks out in fresh places. Though the affection is of little importance from one point of view, inasmuch as it causes but trifling inconvenience, its treatment would be much more successful if the plan of clearing out the fossa supratonsillaris at the same time were adopted. I have demonstrated frequently the presence of the *leptothrix* in the contents of the fossa, associated with chalky or gritty deposit, as in other more visible situations, and it seemed to me pretty clear that until that source was removed, success in dealing with it in the pharynx would not be very great.

The entrance of tubercle through the pharynx has long been recognized as a channel by which the lymphatic glands of the neck may be infected. The mucous membrane of the mouth and pharynx is so rarely the seat of tuberculous disease that we may put it aside almost without further consideration as a source of what is a common affection. Much attention has been given to the tonsil as a portal, and several observers have demonstrated, mainly by inoculation experiments, that the frequency of this mode of conveyance is apparently much greater than clinical experience would admit. Strasmann examined carefully the tonsils in twenty-one cases of tuberculosis, in fifteen of which the lungs were involved, and out of the latter number thirteen showed tuberculous deposits in the tonsils. Moritz Schmidt has pointed out the fallacy of observations based upon the inoculation of gland tissue, obtained post-mortem on the two-fold ground of the frequent presence of tubercle bacilli on the surface of the tonsil, without possessing pathological significance, and of the probability of tuberculous foci being developed during the last days of life, when the vital powers are at a low ebb—two reasons which go far to discount the conclusions which are drawn from the experiments. On the other hand, it seems to me whilst clinical

observation does not confirm this great frequency that the presence of tubercle in the tonsil is not rarely overlooked even when its size should render it visible to the naked eye. According to my observations a favorite starting point is in or around the supra-tonsillar fossa and when that space is covered by a well-marked plica the difficulty of recognizing a tuberculous nodule may be great. Even when special measures are taken to obtain a good view of the parts, the disease may be missed through lying too deep. An example of this I saw in a man who died of pulmonary tuberculosis. He had shown sometime before death, enlarged cervical glands on the left side; nothing abnormal could be made out in the tonsil even when the plica was pulled aside. After death when the parts were removed and the left plica cut through, a tuberculous nodule about the size of a large pea was discovered growing from the tonsil in the floor of the fossa. It showed well developed giant-cell systems which extended deeply into the substance of the tonsil. Its situation precluded its being seen during life, nor was it associated with any enlargement of the tonsil; that it was the result of auto-inoculation from the pulmonary disease is very probable. The disposition of the plica and the direction backward of the opening of the fossa, rendering easy the passage into it of material coughed up from the lungs, and it is undoubtedly to this cause that tuberculosis of the tonsils so frequently follows the pulmonary form of the disease. Tuberculous sputum on its way into the mouth is arrested by the plica and enabled to enter the fossa.

Extension of tubercle bacilli into the cervical glands rapidly follows infection of the tonsil and glandular enlargement results. That this takes place frequently through the fossa I think there can be no doubt, and that it is the most common cause of enlarged glands in the neck is, I think, also true. I have noticed repeatedly that scraping out the fossa and giving it good drainage is followed by rapid subsidence of these glands. Removal of the tonsil does not always suffice unless the operation has laid open the outlet of the fossa. Too frequently the guillotine fails to touch the upper part of the tonsil and the source of the trouble is missed. The excised gland shows nothing abnormal and it is only unless the deeper parts around the fossa are pulled out and removed that we can hope treatment will be followed by success.

THE NON-OPERATIVE TREATMENT OF DISEASES OF THE UPPER RESPIRATORY PASSAGES.*

BY W. SCHEPPEGRELL, A.M., M.D., NEW ORLEANS, LA.

My object in selecting this title for my communication is not only because the non-operative methods are applicable in by far the larger number of cases that require treatment, but also to emphasize to the younger men who are following our specialty the greater importance of conservative treatment over radical measures.

It is not my object in this article to discredit or disparage the importance of surgical methods in diseases of the nose and throat when these are really demanded, for no one realizes more fully the excellent results which may thus be obtained. Nevertheless, I must maintain that the necessity for radical measures is present in but a small minority of cases, and that this minority is decreasing as we realize more fully the limits of conservative surgery.

So identified is the practice of the ear, nose and throat with surgical procedures in the minds of the laity that it is an everyday experience that, after an examination has been made, the patient will inquire: "What operation is necessary?" Nor is this opinion limited to the laity, for to a large number of practitioners the ear, nose and throat practice is associated with surgical work.

In reviewing the situation, it cannot be said that our specialty is not largely responsible for this prevailing opinion. A survey of the published literature of rhino-laryngology shows a large percentage of surgical measures advocated, with comparatively few authors who refer to more conservative methods of treatment. This does not, of course, prove conclusively that other methods are not extensively used, but it certainly encourages the belief that surgical methods prevail in our specialty.

It must be admitted, moreover, that surgical excesses are committed by physicians, who, having taken a short course in special work, imagine themselves prepared to cope with the most delicate and complicated conditions which may arise in the nose, throat and ear. For this state of affairs, the many polyclinics now established in all parts of the country are largely responsible. After a six or eight weeks' course, in which the aspirant for special work has hardly been able

*Read at the meeting of the Western Ophthalmologic and Otological Laryngologic Association, Chicago, April 7th, 1898.

to see the long process of the malleus, or to distinguish the middle turbinal, and has but accidentally seen the choanæ on one or two occasions, the certificate of attendance is given, and the physician believes himself ready to treat all the diseases of the nose, throat and ear which may present. He has witnessed a large number of tonsillectomies, adenotomies, uvulotomies and nasal cauterizations, many of which have been reserved for these lectures, and he returns home provided with the proper instruments of destruction, and from the time of his arrival every patient is viewed with the possibility of utilizing the investment.

While some may think this picture overdrawn, the more experienced know its reality. But a few months ago, a patient suffering from chronic ear affection applied at my office, and stated that the local specialist had cauterized his nostril once weekly for the last three months.

The subject of the non-operative treatment of diseases of the upper respiratory passages is so extensive that it can be but briefly referred to in the time limited to this communication. My object is more to emphasize the principle than to enter into any special details. Non-operative measures should always be given the preference, and surgical methods resorted to only when absolutely indicated, or where more conservative measures have failed.

In the examination of the nasal passages we so frequently find some deformity of the septum that the normal practically forms the exception. It is, therefore, palpably absurd to try to give to each patient a normal septum, and the question arises: Under what circumstances should other than non-operative measures be used? The rule given by some authors that, where respiration on one side is interfered with, this should be a sufficient indication for operation on the septum, is not justified. In the majority of persons, with the nose and throat in apparently healthy condition, the respiration is frequently unequal in the two nostrils, and in all persons such changes sometimes occur. Unless the obstruction is sufficiently great to reduce the breathing on the affected side more than fifty per cent, an operation is rarely demanded, unless required by the condition of the opposite nostril. The human system easily adapts itself to many circumstances, which vary considerably from the normal standard. Even a spur should not be interfered with unless it impinges into the opposite tissues, offers marked obstruction, or gives rise to reflex disturbances.

Acute coryza would appear to be the least adapted to surgical interference, and yet it is not difficult to find medical literature in which

this is recommended. One author advises the mineral acids, as chromic acids, and another, the electro-cautery. The patients who most frequently apply for the relief of this condition are not those who have an occasional coryza, but those who are subject to them. If each attack should, therefore, be treated with this heroic method, the whole nasal mucosa would soon be destroyed.

Many measures have been advocated for the relief of coryza, the great number indicating the unreliability of these methods in general. One which I have found most useful and successful in the larger number of cases, if applied within twenty-four hours, is the spraying of the nose and throat with a two per cent solution of guaiacol and albolene, and the administration of ten grains of quinine, in two doses, at intervals of ten hours.

I cannot leave the subject of coryza without warning against prescribing cocaine in any form for the relief of this condition. Not only is there danger from the idiosyncrasy of the patient, which is not infrequently met with, but also the possibility of forming the cocaine habit. This danger is by no means remote, and in an article on "The Abuses and Dangers of Cocaine," which I read recently before the Orleans Parish Medical Society, I was able to collate many cases in which this habit had been contracted from the injudicious prescription of the physician in cases of coryza, hay fever and asthma. The placing of this alkaloid in the hands of the patient is fraught with danger and is never justifiable.

Hypertrophic rhinitis and the so-called rhinitis intumescent are two conditions in which the greatest surgical abuses in our practice have taken place. In many cases, the patient's nostrils have been cauterized again and again, the operator not realizing that a remedy which is so transient in its effects, and one in which the constant repetition is not without serious menace to the integrity of an organ which has so important a function, should be abandoned, and more attention paid to the prevention of the nasal congestion than to its destructive removal. Attention has been repeatedly called to the abuse of the cautery in these conditions, and while not applied as extensively as formerly, it is, undoubtedly, still used to excess. When there is distinct hyperplasia, the cautery is admissible in cases in which massage and other conservative methods have not given good results, but in cases of intumescence it is rarely ever needed.

A congestion of the nostril may be the sign of a disturbed condition of other parts of the body; it may be due to lack of exercise, abuse of alcoholics, cardiac and renal affections; in fact, to many conditions which would promptly cause relapse, unless their influence, had first

been eliminated. I have, therefore, made it a practice to apply the electro-cautery but rarely in hypertrophic rhinitis, and never in the intumescent form, and the cases which do not come under this rule are so few that they may really be called exceptions.

In atrophic rhinitis we have a condition in which nature has already caused so much destruction that the rhinologists, *nolens volens*, has been limited to therapeutic measures. One or two authors have advocated the electro-cautery, but this procedure has, fortunately, been but little followed. Cupric electrolysis has also been recently advocated, with apparently fair results, but this is not strictly a surgical method; properly speaking, not more so than a hypodermic injection. The medicaments are injected, as it were, into the tissues through the influence of the electric current, there being no destruction of the tissues.



Fig. 1.—Schepppegrell's Nasal Syringe.

The first and most important measure in ozena is the thorough cleansing of the nasal cavities. A recent author, of large experience, advocated the use of as small quantity of solutions as possible for cleansing purposes in these cases, but I believe we would do well to err in the opposite direction. A normal saline or other cleansing non-irritant solution should be used in large quantities, until the nose is thoroughly cleaned. The danger of the douche where there is an obstruction to the flow does not arise in these cases, and with proper precaution nothing but good results should be obtained. The most efficacious syringe (Fig. 1) which I have used for this purpose is a perforated rubber syringe, attached to an ordinary Davidson syringe, by means of which the nostrils may be thoroughly freed of all secretion. I find this much more effective than the syringes which are applied to the nostrils only, or the cups, by means of which the crusts may be drawn into the throat.

The methods which have been recommended in this obstinate disease are the various topical applications, sprays, massage, electrolysis and serum therapy, the advocates of the two latter methods also claiming excellent results. These, however, have not yet been tried in a sufficiently large number of cases to enable us to form a fair judgment of their merits. I have used ozone in a number of cases (*Journal of Laryng., Rhin. and Otol.*, July, 1897) with good results, and I have also found massage a useful method of relief.

The treatment of the accessory sinuses resolves itself almost entirely into surgical methods, on account of the difficulty of access to these regions except by surgical intervention. Even here, however, conservatism is not out of place, and in view of the slow and sometimes unsatisfactory results obtained by opening these cavities nature should be allowed a chance and mild measures instituted. It has been shown by Dr. Avellis (*Archiv. f. Laryng. und Rhin.*, Heft 2, Bd. 4) that acute sinusitis naturally tend to cure, and this should not be forgotten when these cases present.

Too much enthusiasm should, also, not be practiced in exploratory punctures of the antrum. A German author (G. Kreb, *Archiv. f. Laryng.*, etc., No. 483) recently called attention to the fact that where successive punctures of the antrum are made for diagnostic purposes, and on the third or fourth time pus is found which was not obtained at first, this might not be due to the fact that the former punctures had failed to find the pus, but that it did not exist, and that it developed as a result of irritation and surgical procedures.

In naso-pharyngeal catarrh, the condition which presents itself so frequently to our attention, surgical methods have been advocated not so much directly as indirectly, the cauterization, etc., having been applied to the nostril. As this subject has already been discussed, it need not be referred to further here. I would state, however, that the prevailing opinion that this affection is due only to nasal disease does not hold in actual practice. Cases are occasionally met with in which the nostrils are practically in a normal condition, and in which there are no adenoids or secreting cysts, in which there is considerable naso-pharyngeal secretion. While admitting that the nostrils, in the majority of cases, are at fault, it should not be forgotten that there are certain constitutional conditions, such as lithæmia, scrofulosis, etc., which may here exhibit a local expression of a general dyscrasia.

In regard to this, I would call attention to a detail in the treatment of these cases which I have not seen mentioned in the literature of this subject. This refers to the effort made by the patient to free the secretion from the naso-pharynx, the *nasal screatus*, by means of

which the secretion is drawn into the mouth and expectorated. This constant effort increases the irritability of the oro and naso-pharynx, and not only tends to aggravate the existing condition, but also to endanger the integrity of the delicate mechanism of the middle ear, where this has not already been effected by the catarrhal disease.

The first object should be to place a proper douche in the hands of the patient, by means of which the naso-pharynx may be mechanically cleansed of all adherent secretion. For this purpose the syringe, which I have already shown, is useful, the perforated rubber point being pushed sufficiently back to flush the naso-pharynx as well as the nostrils. The patient is advised to use this at first two or even three times daily, and in the meanwhile to avoid every effort to clear the throat by means of hawking, explaining that the sensation of a secretion in the throat may be due not only to its actual existence, but also to the increased sensitiveness of the throat, which would cause even the normal secretion to feel as a foreign body.

In regard to hypertrophy of the faucial and pharyngeal tonsils, I have seen this exist to a considerable extent without giving rise to inconvenience, and, as the tendency in these cases is to diminish with advancing age, the *laissez faire* plan is a good one, unless the indications positively point to surgical interference. It should be remembered that operation on the tonsils is not undertaken without a certain element of danger, and the question should always be well weighed before operative measures are advised. The argument that these tonsils are of no service, and that their extirpation can cause no harm, is one that we have no right to assume, and its practice is not without its attending danger.

As regards the larynx, the majority of measures here advocated have been non-operative, so that I need not detain you by going into details over this part of my subject. As in the naso-pharynx, operations are frequently undertaken in the nose to remedy the pathologic condition in the larynx. No one appreciates more fully the value of the nose in respiration, and its important duty in moistening, warming and cleansing the air which we inhale, but I must insist that we should not conclude that every defect in the throat is due to some abnormality of this organ, and still less that the condition must necessarily be improved by operative measures in the nasal passages.

If we have a congestion in the nasal mucosa which impedes the respiration, and we at once apply the cautery to reduce this, we also diminish the number of glandular elements which furnish the moisture which the air requires for respiration. Where the cautery has been extensively applied to the nasal mucosa—and I have seen cases

in which little of the normal could be seen—the air is not sufficiently moistened, and the absorption of the necessary moisture from the pharynx may create an irritation more serious than the condition for which the patient first applied. As already stated, every condition, even the most remote that could affect the diseased region, should be investigated and every means exhausted before destructive measures are undertaken.

In a recent case, in which a patient suffering from a spasmodic laryngeal cough, for which he had been treated by extensive cauterizations and local applications, a careful investigation proved that the patient was in the habit of smoking from fifteen to twenty cigarettes daily; the discontinuance of this habit at once corrected the irritation. This case is not an isolated one, as I have records of many similar cases.

In conclusion, I would again call your attention to the importance of non-operative measures in the treatment of diseases of the upper respiratory passages. Every case should be fully examined, and the least irregularity of the septum or local congestion should not be held responsible, to the exclusion of a more complete inspection of the upper respiratory tract. A complete history of the case should always be obtained, which will frequently aid in the diagnosis, and may also assist in the selection of the most appropriate treatment for relieving the patient. The nose and throat specialist should avoid the tendency of becoming narrow in his views, and of seeing the patient only through the nasal speculum and laryngoscopic mirror; he should be as familiar with matters of general medicine as the general practitioner, and should make it his motto not to know less of general medicine, but to know more of rhino-laryngology.

When an operation is absolutely demanded, this should be fully explained to the patient, and where the physician is known to be conservative in his tendency, little difficulty would be had in obtaining the required consent. The faithful observance of these rules will remove the odium of excessive surgery from our specialty, and will do much to obtain for it the respect and appreciation to which it is so well entitled.

THE INNERVATION OF THE MUSCLES OF THE SOFT PALATE

BY WILLIAM ALDREN TURNER, M.D., F.R.C.P.

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Although it is commonplace in neurology to say that the elevator of the soft palate is innervated by one of the bulbar nerves, yet it is stated in many anatomical textbooks, and in some on clinical medicine of recent publication, that this muscle receives its nerve supply from the facial nerve, and is paralyzed in some forms of peripheral facial palsy.

The doctrine of the facial supply of levator palati muscle, as held in England, probably originates from the teaching of Sir Charles Bell; for it has generally been maintained in Germany that the palatal muscles were supplied by one of the nerves arising from the medulla oblongata. Records of cases in which unilateral paralysis of the soft palate was associated with facial palsy are to be found scattered throughout medical literature; but as the observers only noted the position of the uvula, it is doubtful whether real paralysis of the palate was present in many of these cases. The experimental evidence, moreover, is opposed to the teaching of the facial nervous supply; for John Reid (1849) was unable to produce contraction of the palatal muscles on stimulation of the facial nerve; and this observation has been amply confirmed by many subsequent physiologists. The association of facial with palatal palsy, which has undoubtedly been observed and recorded, is no doubt due, from knowledge now at our disposal to a double lesion, involving both the facial and bulbar nerves.

The clinical observations of Hughlings Jackson in 1864, and of numerous others subsequently, taken in conjunction with the experimental records of John Reid, Volkmann and Claudé Bernard (to mention only a few of the experimenters) clearly showed that the innervation of the levator palate was to be found, not through the facial but through the bulbar nerves. The bulk of evidence produced by their observations was in favor of the accessory nerve to the vagus being the motor nerve to the muscles of the soft palate and the course of the fibres was simple. The nucleus accessorii vagi gave origin among other fibres to those for the levator palati

muscle, which ran in the lower vagal or accessorius roots, and passed by way of the pharyngeal plexus to the soft palate, where they were distributed to the muscles.

The view generally held by those with whom the facial theory of palatal innervation was impossible, was that the levator palati muscle received its nerve supply through the roots of the nervous accessorius vagi.

Recently, however, a change in our conception of the relations to each other and in the terminology of the bulbar nerves, has taken place. Except outside the skull, where their distribution is clear, there exist no means of distinguishing anatomically the glossopharyngeus, vagus and accessorius nerve roots, except inferentially by their position. This change has on the one hand ensued upon more exact methods of studying the nucleus of origin of the nerve roots, both normally and in diseased conditions, more especially in chronic progressive bulbar palsy. These methods have shown that the nuclei of origin of the bulbar nerves—glossopharyngeus and vagus—are really parts of one mixed nerve, having a dendrite nucleus of origin of their efferent (motor) fibres—the nucleus ambiguus; and that their afferent fibres terminate, in part at least, in the so-called end nucleus of the vago-glossopharyngeal nerve.

On the other hand, the nomenclature of the textbooks has been subjected to criticism. Spencer (*Lancet*, 1895, i. p. 476,) has pointed out that the description of the root of the bulbar nerves, as given by Willis, has not been universally followed. He has shown that the term "accessory" was applied by this anatomist to the spinal nerve, which was accessory to the vagus, and that it passed to the sterno mastoid and trapezius muscles. Owing to a misuse of the term "accessory" it came to be applied to the lowest fibres arising from the bulb, which fibres did not belong to the accessory nerve, not to the vagus, as Willis had shown. Hence the nerves of bulbar origin are glossopharyngeus and vagus (in addition to the hypoglossal); while the accessory nerve, or nerve of Willis, is of spinal origin.

We are, therefore, led to the conclusion that the lowest of the bulbar nerve roots are vagal, and they arise from the *nucleus ambiguus*. In many cases of bulbar paralysis the cells of this nucleus have been found atrophied. In nearly all cases of chronic bulbar palsy there is at first paresis and eventually paralysis of the velum pendulum palati. A comparison of the clinical phenomena in this disease with the pathological facts indicates that the nucleus

ambiguus is the nucleus of origin of the motor fibres for the levator palati muscle. From the lower end of this nucleus the lowermost of the vagal root fibres emerge, and passing into the trunk of the vagus nerve are given off by the pharyngeal branches to the pharyngeal plexus, from which they are distributed to the levator muscles of the palate.

The three steps in the history of the innervation of the muscles or the soft palate may therefore be summarized as follows:

1. From the trunk of the facial nerve, through the vidian and large superficial petrosal nerves to the sphenopalatine ganglion, and thence by the posterior palatium branch to the soft palate—a view no longer maintained.

2. By the accessorius vagi nerve to the trunk of the pneumogastric, and then by the pharyngeal branches to the pharyngeal plexus and soft palate.

3. From the lower end of the nucleus ambiguus through the lower vagal roots to the pneumogastric nerve trunk, reaching the soft palate by the pharyngeal branches and pharyngeal plexus.

The last is the view upon the origin and course of the palatal motor fibres, which receives much support from recent investigation.

Unilateral palatal palsy is a rare condition, but one which falls more commonly into the domain of the laryngologist, as it is almost invariably associated with paralysis or paresis of the vocal cord upon the same side. The reason of this association is obvious, in that both the levator palati muscle and some of the muscles which move the vocal cords receive their nerve supply from the same medullary nucleus—the nucleus ambiguus.

The first point to be borne in mind in the recognition of unilateral palatal palsy is, that it is only recognizable when the patient is made to phonate, while the second point lies in dissociating any clinical value from the position or deviation of the uvula.

In unilateral palsy there is said to be, when at rest, a lowered and less-arched condition of the velum; but upon this sign, if it exist, no reliance should be placed. The only true evidence of palsy of one side of the palate is the *absence of the movement of that side on phonation*, the opposite side being freely elevated. In complete bilateral palsy, there is no palatal movement on sounding the word "ah;" and the pronunciation of those words requiring closure of the naso-pharynx is rendered imperfect. Hence, "rub" is pronounced "rum," and "egg" as "eng."

There may exist all degrees of bilateral palsy, from the complete

form best seen as an early post-diphtheritic phenomenon, to the incomplete variety of early bulbar palsy.

The conditions under which palatal palsy may be met are:

1. Diseases interfering with the nucleus ambiguus in the medulla oblongata, these are (a) chronic bulbar paralysis, in which is found a progressive bilateral degeneration of the nerve cells. (b) Tabes dorsalis, a state in which the degeneration of the nucleus may be on one or both sides. (c) Symigomyelia, characterized by new growth formation extending upward into the medulla oblongata and involving the nuclei of origin of the nerve root.

2. Implication of the nerve root between their emergence from the side of the bulb and their exit from the cranium through the jugular foramen. The causes of this are numerous, but are chiefly meningial, *e. g.*, syphilitic, and malignant affections of the membranes of the basis cranii.

3. From the pressure of malignant, tubercular or other growths deeply in the neck upon the bunch of the vagus before the pharyngeal branches are given off.

In conclusion, it may be stated, that the evidence is in favor of the *tensor palati muscle* receiving its nerve supply through the motor division of the fifth cranial nerve. Stimulation of this nerve, after the mucous membrane has been removed from the soft palate, has shown obvious contraction of the fibres of this muscle. (Henri, Rethi.)

Extirpation of Soft Palate and Tonsil for Carcinoma—EDWARD H.

LEE—*Medicine*, February, 1898.

The patient, a man aged fifty-three, had good family and personal history. No cause could be found for carcinoma except smoking. The trouble had existed nine months at the time of operation. Swallowing became painful the second month and had increased up to a point of not allowing the swallowing of solid food. The tumor involved the whole soft palate and left tonsil and was one inch in diameter. The microscope established the diagnosis of carcinoma. The submaxillary gland was enlarged.

The first step in the operation was the ligation of the external carotid to control hemorrhage; the second, inferior tracheotomy and packing the larynx with gauze; the third, temporary resection of the symphysis of the inferior maxillary bone and drawing the tongue into the space thus formed to make room for work; the fourth, the removal of tumor by dissection and suturing incised edge to mucous membrane of the hard palate with the interrupted suture. Six months after the operation there was no sign of a return of the tumor.

EWING. (BISHOP.)

UNUSUAL SIZED RHINOLITH REMOVED WITH THE LITHOTRITE, WITH PROMPT CESSATION OF PROLONGED DISTURBANCES.*

BY J. F. HILL, M.D.

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Though foreign bodies in the nose are not uncommonly observed, the history of the case which is herewith offered, will probably prove of some interest, not only on account of the prolonged suffering which was experienced without obtaining any relief, but also on account of the unusual size of the disturbing factor which was found to be the cause of the so-called "incurable catarrh." Furthermore, the subsequent history of the case proves conclusively that nasal obstruction has decided bearing upon middle ear ventilation, as shown by the prompt cessation of the tinnitus, together with the restoration of the hearing after the obstruction was removed.

Mrs. R., aged sixty years, consulted me on May 31, 1897, for nasal catarrh. She gave the following history:

For nearly twenty-five years had been afflicted with a profuse offensive discharge from the anterior and posterior nares. During that period she had consulted several physicians, who had prescribed washes and given her the comforting assurance that there was no cure, as the disease was due entirely to the climate. Of late years she had noticed a gradual loss of hearing in the right ear, tinnitus aurium, epiphora of right eye and epistaxis; and severe headaches had become of daily occurrence. She had not been able to lie upon her right side for five years without increasing the headaches and tinnitus.

Examination showed that the external nose (right side) presented a distinct deflection of the dorsum. The right nasal passage was impervious to air and was filled up with a thick muco-purulent discharge and granulations. There was a marked deflection of septum in left nostril toward that side.

After thoroughly syringing both cavities with an alkaline solution,

*Read before the Meeting of the American Laryngological, Rhinological and Otological Society, held in Pittsburg, Pa., May 11, 1898.

I passed a pledget of cotton, saturated with an eight per cent solution of cocaine, into the right nares, for the purpose of reducing the swelling of the mucous membrane and producing local anæsthesia. By posterior rhinoscopy the mass could be distinctly seen as a grayish substance nearly filling the posterior nares. The outline of the turbinated bodies could hardly be made out. Again directing my attention to the anterior nares, I removed the pledget of cotton, and curetting away some granulations, came upon a hard and roughened substance, about three-quarters of an inch from the tip of the nose and completely filling the anterior nares. With a hook, I endeavored to dislodge it, but found it immovable.

Upon questioning her, she stated that she had no recollection of ever having put anything into the nose. Having satisfied myself, however, that I had to deal with a rhinolith, I advised its immediate

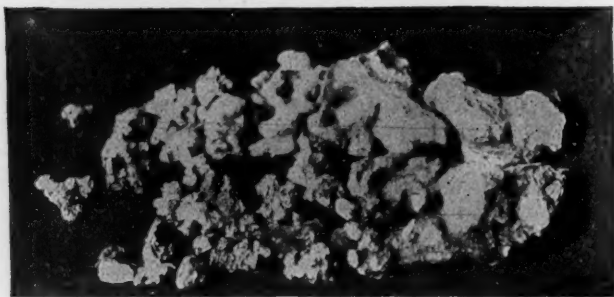


Fig. 1.—Major portion of Rhinolith.

removal. She readily consented, and the following morning, with the assistance of my colleague, Dr. Thayer, the patient having been thoroughly etherized, I removed the mass, by crushing with an ordinary lithotrite, designed for crushing urinary calculi.

It was impossible either to determine its exact size or weight, as in using the lithotrite to break up the mass, undoubtedly many of the smaller pieces were lost in the copious hemorrhage which attended the operation. The weight of that which I was able to save, and which I submit for your inspection, is 275 grains.

The inferior and middle turbinated bones were much atrophied and ulcerated. After cleansing the nostrils, I curetted the surfaces of the inferior and middle turbinated bodies, and syringing with a

one to 5000 solution of bichloride, followed by sterilized water, packed the nostril with plain gauze. This packing was allowed to remain in forty-eight hours, when it was gently removed; again syringed out as before, and repacked, though less firmly.

On the fifth day the packing was omitted, but a strip of gauze was passed into the nostril to keep the surfaces apart and prevent adhesions. At the end of two weeks the gauze was entirely dispensed with, but the nostrils were cleaned three or four times a day for a month.

I discharged the case July 7, about five weeks after the operation. At this time there was no perceptible deflection of the dorsum, and she claimed that all the disturbances which she had suffered had passed away. She can lie upon either side with perfect comfort. There is no epiphora nor tinnitus. The hearing is nearly as good in the right as the left ear, and headaches are a thing of the past.

Serious Consequences following Intranasal Operations—ROBERT LEVY—*Denver Med. Times*, Vol. xvii, No. 11, May, 1898.

Two cases and an instructive bibliography are here published.

The first case was one of the author's. A young man, a medical student, of very nervous temperament, who had suffered from rheumatism, was operated upon by Levy successfully for a septal spur, with prompt recovery. Later patient, impressed by presence of deflected septum, prevailed upon Levy to operate. He did Asch's operation, and patient wore a removable tube, and after third day was not seen for ten days; he then appeared much depressed; profuse perspiration; some fever; pulse 120; complained of intense headache and pain in both knee joints. In spite of treatment death ensued in two weeks. Necropsy showed subcutaneous infarcts, and thrombus of posterior cerebral artery, endocarditis, pericarditis. Cause of death, general septicæmia.

The second case was in practice of Bulette, of Pueblo, Colo. A young woman was operated upon for large exostoses of both sides of septum, under asepsis. Good recovery from operation on right side. Two days after operation on left side there were symptoms of cerebral meningitis, and death on second day. No autopsy.

Levy warns against indiscriminate operations, and his bibliography abundantly illustrates the dangers.

EATON.

CASE OF ADENO-CARCINOMA OF THE NOSE.*

BY MAX THORNER, M.D., CINCINNATI, OHIO.

The author refers to the confusion regarding the nomenclature of nasal tumors. In his paper he wishes to speak about such neoplasms only as are histologically to be classed as adenomata and adeno-carcinomata. The case under consideration is one in which a typical adenoma of the nose developed into an adeno-carcinoma.

The case reported is that of a farmer, aged forty-seven, white, who was referred to the author by Dr. Churchman, of Charleston, W. Va.

About one year ago he noticed some obstruction in the nasal cavity which gradually increased until breathing through that side was absolutely impossible. Four months after he noticed the trouble, the doctor removed a large growth from the nose with a snare, after which breathing was again free for about one month. Then the same trouble reappeared. Another large portion of the growth was again removed. Then he was free for about two weeks, when breathing was impeded again, and two weeks later the left nasal cavity was entirely closed. Operation was repeated in intervals of about one month, so that up to the present time eight operations have been performed. The operations were followed by moderate hemorrhage, and for most of the time were not very painful. His only complaint was the obstruction to breathing. Has not lost weight. Appetite good.

The following is the condition upon entrance into the hospital: Man of medium size, fairly well nourished, nothing abnormal to be seen about his face. Hearing in left ear diminished, the left side of the nose entirely obstructed by a growth which extends from the vestibulum backward, and fills completely the space between the choana and the Eustachian tube; color greyish-red, surface uneven and resembling somewhat a mass of cauliflower, is soft and bleeds upon touch; origin cannot be ascertained, but it appears to come from the middle meatus, which is completely obliterated. Septum free from growth; no glands enlarged. During my absence Dr. Allen removed with cold wire snare a large portion which surrounded the orifice of the Eustachian tube. Hemorrhage rather abundant.

*Author's Abstract of a paper read at the Annual Meeting of the American Laryngological, Rhinological and Otological Society, at Pittsburg, May 11-12, 1898.

Microscopic examination showed the removed pieces to be typical adenoma. October 5, about two and a half weeks after this operation, nose began to be again obstructed. I removed with cold wire snare as much of the growth as I could. Microscopic examination confirmed the first diagnosis. On October 22, the nose was again entirely obstructed. Operation under chloroform anæsthesia, in which an enormous amount of the tumor was removed from the nose and post-nasal space with snare and curette. Pieces varying in size from a filbert to that of a small walnut were removed. They all were very friable, hemorrhage abundant. Left side of nose was packed with iodoform gauze. Patient did very well after operation; no hemorrhage after removal of the plug.

On October 29, one week after the operation, the growth was seen to return. The patient was now given to understand that there was no hope to remove all of the growth by intranasal procedure, and the advisability of a more radical operation by temporary resection of the upper jaw was suggested to him. The patient refused operation and left the hospital.

Portions of the growth at this last operation were examined by Dr. Albert H. Freiberg, then microscopist of the hospital, who had the kindness to send me following:

The surface of the growth is not papillary but smooth. Lying in a well developed stroma of young connective tissue abounding in easily stained nuclei is seen an enormous aggregation of tubuli of various conformation. Some of them are fairly straight, with lumina of small calibre, others convoluted in their course, and others still short, with large dilated lumina, reminding one of cystic formation. Here and there is to be seen an atypical collection of epithelial cells without evident lumen.

The tubuli are lined with a tall cylindrical epithelium whose nucleus is large and very easily stained. I have been unable to detect anything like cilia on these epithelia. Taken altogether the picture reminds one forcibly of the malignant adenoma of the uterus I should call it malignant adenoma.

For the rest of the history of this case I am indebted to Dr. Churchman, of Charleston. A few months after the last operation the patient began to decline. The growth had to be removed every few weeks. On April 25, Dr. C. wrote that he had operated upon him eight or ten times since he left Cincinnati. The operations had grown to be very painful. General health very bad, sallow complexion. The septum and right side of the nose had become involved; eyelids were edematous. At this time he seemed to be will-

ing to have any operation done. Meanwhile, Dr. C. had some of the masses removed on April 25, sent to the pathological laboratory of Johns Hopkins Hospital. The report was that it was a typical case of adenoma changing into an epithelioma. Dr. C. did not see the patient for one week; when he saw him again his nose was double its size and was purple; his eyes were very much swollen, protruding and bloodshot, and he was not able to swallow anything but soft and liquid food. The patient returned to his home, and Dr. C. did not see him any more. He died on June 12, but Dr. C. did not hear of it until after he was buried, when he received the remainder of the history from the family physician; which is as follows: The patient grew rapidly worse; the growth broke through the walls of the nose at its bridge, from where severe hemorrhages took place; the left orbit was more and more involved until two and one-half weeks before death, the left eye was destroyed; at the time of his death the growth in left orbit was two and a half inches in diameter, and bleeding all the time. No hearing for ten days preceding his death, his mind was entirely destroyed the last five or six days.

We have to deal here with a case of malignant disease of the nose, and if correct statements were given the duration of the trouble was about one year and nine months, or perhaps two years. The question arises whether this was an adenoma that underwent carcinomatous changes, or whether it was not a case of a benign tumor, in addition to which there developed later a carcinoma. Adenoma of the nose is looked upon by many as a benign tumor, however, all authors are agreed upon the possibility, and some even on the probability, of an adenoma becoming malignant. Pathologists and clinicians mention the manifest malignant tendencies of adenoma of the mucous membranes, and speak of a form of adenoma of the uterus as adenoma malignant. In a still further advanced stage, when the epithelial elements assume the shape of dense cell conglomerations, we are in the habit, according to Ziegler, to call such a growth an adeno-carcinoma. And with such an occurrence, no doubt, we had to deal with in this case.

SARCOMA OF THE NASO-PHARYNX, WITH REPORT OF A CASE.*

BY D. A. HENGST, M.D.

Laryngologist and Otologist to Mercy Hospital, Pittsburg, Pa.

The naso-pharynx is not often affected by malignant disease; sarcoma seems to be met with more frequently than carcinoma, and of these medical literature contains the report of but a limited number of cases.

In the first volume of Dr. Bosworth's work on diseases of the nose and throat he gives a report of nineteen cases of sarcoma, located in the naso-pharynx, all that he had been able to collect up to that time—1889.

Sarcoma is a disease of earlier life than carcinoma. Of Bosworth's nineteen cases, ten occurred between the ages of one and thirty years, and of the ten, five were between ten and twenty years of age. His cases were also more common among males than females in the proportion of almost one to three.

Symptoms.—The only symptom in the earlier stages which might make the symptoms differ from other tumors of the same region is the character of the secretion, which is of a sero-mucous character, and quite ichorous and offensive. This is quite an early symptom, and with the presence of a growth would of itself be almost diagnostic. Epistaxis, though slight, is liable to occur in many of the cases.

There is no special sarcomatous cachexia, but the general health suffers early in the history of the case; this is usually observed before there is any mechanical interference with respiration or deglutition. This impairment of the general health so early in the disease may be due to the offensive character of the discharge, which no doubt impairs digestion and poisons the inspired air. We all know that benign tumors of the naso-pharynx, on account of interference with oxygenation of the blood, will greatly interfere with the general health, especially in young persons, among whom we find the majority of these growths. After the sarcomatous tumor has increased in size there will also be difficult deglutition and attacks of dyspnoea.

*Read at the Fourth Annual Meeting of the American Laryngological, Rhinological and Otological Association, held at Pittsburg, May 11 and 12, 1898.

Impaired hearing, by incroachment upon the Eustachian tube, is also a prominent symptom, and there may be suppurative otitis media.

All the special senses except that of sight are usually impaired or abolished.

The origin of a sarcomatous growth is usually from the basilar process of the occipital bone, beginning in the deeper layers of the mucous membrane lining the naso-pharynx, and growing in the form of lobulated rounded growth, and as it spreads downward closing the posterior nares, and forming attachments by infiltration in all directions. The tumor will assume an irregular rounded or lobulated shape, having a pinkish or somewhat muddy color, according to vascularity, between the somewhat translucent appearance of a myxoma and the pinkish-white opaque look of a fibroma.

The only positive way of making a diagnosis is the removal of a small section and making a microscopic examination of the same.

Carcinoma may be diagnosticated from sarcoma by the hard feeling of the former, which is quite different from the softer consistency of the latter. The question whether the tumor arises in the nasal cavity or the naso-pharynx is not always an easy matter to decide; a naso-pharyngeal growth, whether fibroma or sarcoma, is said to produce a unilateral, while a nasal growth gives rise to a bilateral stenosis, a point of some importance. Bosworth believes that the converse is true. In the case to be reported the former theory proved to be correct.

A nasal tumor is rarely attended with secondary infiltration of the cervical glands, or, if it is, not until late in the course of the disease. In naso-pharyngeal cases, if it does occur at all, it will likely be earlier in its course. Enlargement of the cervical glands is said to occur in about one-third of the cases; in my case there was no involvement.

Sarcoma of the nasal cavities does not show a disposition to advance into the pharynx. It is said that a sarcomatous tumor, more or less filling the pharynx, is pretty clear evidence that it originated in the naso-pharynx.

Prognosis.—The earlier in life the more rapid the course of a sarcoma; the character of the tumor also has something to do with the prognosis; a tumor composed of small round cells runs a much more rapid course than a spindle-celled growth; a fibro sarcoma, on account of the fibrous tissue, would not grow as rapidly as the others. In Bosworth's nineteen cases the patients, with one exception, all died either as a result of the operation or within a few months from

a rapid recurrence of the disease. In the other case the patient was alive seven years after the removal of the tumor with no symptoms of any recurrence. On general principles we may, therefore, regard the prognosis as exceedingly unfavorable.

Treatment.—The points in the treatment are the use of the cold wire snare, galvano-cautery snare; slitting of the palate, or the external operation. Outside of the question of hemorrhage, which is not usually severe, my preference would be the cold wire snare, when there is no infiltration of the tumor with the sides of the pharynx, and when it can be encircled within the snare and used through the snares. In slitting the plate the growth may sometimes be encircled with a heavy snare or *ecraseur*, and after its removal the cut surface thoroughly cauterized, although there is some danger of exciting inflammatory reaction of a severe character in the surrounding healthy structure.

The external operation should only be performed when all other means are out of the question, and it gives any promise of prolonging the life of the patient, the patient being in a fair condition at the time of operation.

The following case, Jas. R., aged fourteen years, was admitted into my service at the Mercy Hospital on October 5, 1897, with the following history:

For the last two months he had difficulty in breathing through the right nostril, and somewhat less marked on left side; difficult and painful swallowing, headache, dullness of hearing, more marked on right than left side, an ichorous irritating discharge from the nostrils, slight epistaxis at times. There was no marked cachexia, but considerable emaciation, and no enlargement of the cervical glands. His father stated that he seemed to be in a sleepy state most of the time, and he complained of slight pain in the throat. On examination of the throat there was found to be a bulging forward of the right side of soft palate, presenting almost the appearance of an acute phlegmonous tonsillitis. The left side was not so markedly protruding, although not normal; on introduction of the finger into the naso-pharynx, a semi-solid mass could be felt, almost completely filling the post-nasal space; the posterior nares could not be felt, and the mass was completely attached to the walls of the pharynx and soft palate; only slight bleeding was caused by the examination.

There was not much doubt in my mind as to the nature of this growth. The question of its removal was next to be taken into consideration; to remove with the wire snare through the nose was impossible on account of the infiltration with the surrounding tissues.

To encircle the tumor with an ecraseur introduced through the mouth into the naso-pharynx was also out of the question on account of adhesions all around.

On consultation with Dr. J. J. Buchanan, surgeon to the hospital, it was decided that the external operation was the only method offering any chances whatever, accordingly on October 10, five days after admission, the operation was performed by Dr. Buchanan, in the following manner:

An incision was made transversely from the zygomatic process of the malar bone, skirting the lower border of the orbit to its inner and lower angle. It was then continued downward in the re-entering angle between the nose and cheek and along the upper lip to the middle line, where it was turned downward, dividing the lip at its middle. The soft parts including the periosteum were separated from the superior maxillary and malar bones at their junction.

A blunt hook was then passed around both bones at this point, and used to draw a wire saw beneath them. This saw was left in place. Another saw was passed under the nasal process of the superior maxilla and also left in place. A median incision to the bone was made in the roof of the mouth from the incisor teeth backward and the soft palate and uvula split in the middle line.

A drill hole was made well back in the middle line of the hard palate and a wire saw drawn through into the nostril alongside the septum.

The bones were sawn through in a few seconds with the three saws and the superior maxilla was lifted from its bed with a Ferguson's forceps and turned to the outer side where it hung out of the way attached to the face only by a pedicle of soft tissues. The infiltrating growth was cut away with scissors and required extensive dissection, it being impossible to remove it in its entirety.

The jaw was returned to place and held there by buried wire sutures. The soft parts, including the soft palate and uvula were sutured and but few signs of the operation remained.

The patient made a good recovery so far as the operation was concerned; the extensive wound healing promptly and showing very little scar, but in short time the naso-pharynx again filled up, and the patient died November 4, twenty-five days after the operation.

Examination was made by Dr. Singley, pathologist to the hospital and found to be a small round-celled sarcoma.

515 Penn Avenue.

TRANSILLUMINATION IN THE DIAGNOSIS OF SINUS DISEASE.*

BY CHAS. H. KNIGHT, M.D., NEW YORK.

The purpose of this brief paper is to assist in establishing a just estimate of transillumination as a diagnostic test.

No reference will be made to the history or literature of the subject. It is merely a record of personal experience based on a study of more than two hundred cases examined during the last six months. The examinations were made without reference to pathological conditions, although, of course, most of the subjects had more or less derangement of the upper air passages.

The symptoms of sinus disease are often so obscure that we may be forced to resort to any measure that may facilitate diagnosis, even though under certain circumstances it may be misleading. Some of the prevailing scepticism as to the value of the light test results from a study of the uncovered skull. For clinical purposes it is obvious that conclusions thus reached may be fallacious, since a relatively small antrum, for example, may have a thin, translucent lining membrane, while on the other hand a capacious antrum may have a dense, impenetrable wall. The transmission of light may be obstructed not only by a thickened mucous membrane, but by various anomalies in the bones constituting the walls of the antrum. Among the latter may be mentioned bony septa subdividing the cavity, exostoses projecting into it, or unusual thickening or distortion of the bony wall. Deficient resorption of the maxillary bones would give a contracted antrum and proportionate diminution of light, while excessive resorption would increase the dimensions of the antrum and give a more intense light. The latter result is said to be associated also with those rare conditions designated mucocoele and cyst of the antrum. I have had but one opportunity to examine a case of cyst, and in that the light was decidedly brighter on the affected side owing to expansion of the cavity and extreme thinning of its anterior wall. In this case before the light test was employed it was the opinion of several that the antrum was occupied by a solid tumor.

In making these investigations three points were noted: First, the appearance of the pupils; second, perception of the flash of light on

*Read before Meeting of Laryngological Section, New York Academy of Medicine, May 25, 1898.

the part of the patient with his eyes closed, and third, the extent of the light area in the antral region. The first is not important and is influenced more or less by the thickness of the orbital plate. In the majority of cases the pupils appear brightly illuminated. In observing the second point allowance must be made for the stupidity or imagination of the patient, and it also is not of much moment. The third point, as the one of chief interest, will be the only one here referred to. The data to be given presently will relate exclusively to the maxillary sinus. Incidentally I may mention that variations in the dimensions of the frontal sinuses appeared to be more extreme and in a small number of cases a median septum could be distinctly demonstrated.

Four (4) of the cases on my list were unquestionably empyema and gave marked and characteristic results on application of the electric lamp. Two of these were treated by perforation through the alveolus and all have exhibited increase of translucency as improvement has progressed under treatment.

Five (5) cases with suspicious histories showed inequality in light area, and in three of these the symptoms pointed unmistakably to old supuration of the antrum which had never been recognized.

In eighteen (18) cases there was more or less difference between the two sides of the face, but in none of these were there any symptoms whatever of any form of antral disease.

In two (2) cases both antra were in absolute shadow. Both of those patients were men with very high-arched palates and very flat faces. One had pronounced hypertrophic rhinitis and the other a large collection of nasal polypi. The conditions were relieved without affecting the opacity of the antra or disclosing pus within them.

In one hundred and seventy-one (171) cases no difference in the light area of the two sides could be detected. One of these cases while under observation had an attack of acute inflammation of the antrum which presented all the classical symptoms and responded very graphically to the light test.

How should these figures be interpreted? It seems to me that with ordinary care the proportion of cases in which the light may prove delusive is extremely small. An antrum filled with pus must be opaque. Almost the only chance for error is in the case of an asymmetrical skull, of which the larger antrum contains a small quantity of pus. In the absence of subjective symptoms a dark antrum does not authorize a diagnosis of empyema. The evidence furnished by transillumination, therefore, must be regarded as cor-

roborative rather than by itself conclusive. It may not be infallible, but it surely has its place in adding to the certainty of diagnosis.

In conclusion, I wish to protest against explorative puncture of the antrum as a diagnostic measure. In my opinion it is a dangerous procedure. For instance, in a recent suspected case punctures on three consecutive days disclosed pus on the third trial. To my mind such a result is by no means surprising. If pus was present on the first attempt the experiment was a failure; if the exploring trocar was the source of infection, not an unreasonable supposition, it was worse than useless.

With equal emphasis I would protest against the adoption of the usual methods of surgical interference in all cases of empyema of the antrum. In certain quarters it is the fashion to plunge into every antrum supposed to contain pus. An opening is made through the alveolus, the antral cavity is irrigated, then packed with gauze, or a drainage tube is inserted. In many cases this is wholly unnecessary.

The principle of treatment I would advocate is as follows: In all cases of pus in the maxillary sinus in which a diseased tooth is *not* an etiological factor, the proper course to pursue is to cut away all overgrowth of tissue in the region of the ostium maxillare in order to restore normal drainage through the anatomical outlet of the cavity. It is not difficult to wash out and medicate the antrum by this way and in a fair proportion of cases a cure may be thus obtained in a relatively short time with comparatively slight discomfort to the patient. Should improvement fail to follow in the course of a few weeks, we must conclude that the mucous lining of the sinus has undergone degeneration which necessitates curetting of its walls through an artificial opening.

147 West Fifty-seventh Street.

Adenoids in the First Year of Childhood—H. CUVILLIER, Paris—

Am. Med. Surg. Bulletin, Vol. xii, No. 9.

In his experience the author has met with sixty-four cases of adenoids in children under one year of age. Laryngo-tracheitis, laryngismus stridulus, spasm of the glottis and emphysema have been observed as sequelæ.

This observer resorts to the medicinal treatment in young subjects, employing instillations of menthol in oil; 1:60; or resorcin, 1 to 50 or 25.

LEDERMAN.

**DEATH FOLLOWING IMMEDIATELY AN OPERATION
FOR NASO-PHARYNGEAL ADENOIDS UNDER CHLO-
ROFORM, WITH REMARKS ON CHLOROFORM
ANÆSTHESIA IN THIS OPERATION.***

FRANK WHITEHILL HINKEL, A.M., M.D., BUFFALO, N.Y.

A boy, aged eight years, was operated on for naso-pharyngeal adenoids to relieve recurring catarrhal otitis. Chloroform was administered carefully by a skilled anæsthetist. It was taken badly, with vomiting and severe glottic spasm. On account of the vomiting and incidental delays about one ounce of chloroform was administered in all. The chloroform was removed to make way for the operation and at that time the pulse was good. The operation occupied but a very few moments. Just at its conclusion the boy gave a few hurried shallow gasps and respiration and pulse ceased at once. Persistent efforts at resuscitation with continued artificial respiration were without effect. No post-mortem was obtained.

Chloroform has been in the past the most generally used anæsthetic in this operation on account of its convenience and the belief that it is a relatively safe anæsthetic for children. In 1896, Dr. Holloway reported, in the *Medical Magazine*, of London, eleven deaths under chloroform in operations on the tonsils and naso-pharyngeal adenoids. This list I am able to increase to eighteen deaths under similar circumstances that have been reported since 1892. (A brief report of seven fatal cases follows.)

Observations by Paltauf, Kolisko and others throw some light on the causes of the mortality under chloroform in this operation. In a number of cases of sudden death from slight causes, hypertrophy of the lymphoid tissue throughout the body was found, including the tonsils, lymphoid structures at the root of the tongue and the naso-pharyngeal adenoids. The thymus gland was persistent and enlarged and the intestinal follicles were hypertrophied. There were frequently present a dilated heart not dependent on valvular lesions, and a narrowing of the aorta and the arterial system generally. This condition, which has been called *habitus lymphaticus*, was found amongst others in a number of deaths during chloroform administration. People so constituted seem to have little power of resistance

*Author's abstract of a paper read at the annual meeting of the American Laryngological, Rhinological and Otological Society, Pittsburg, May 11-12, 1898.

to comparatively slight shocks. Paltauf believes the cause of death should be sought in a constitutional dystrophy. The exaggerated development of the thymus or its abnormal persistence constitutes a concomitant symptom, as does also the hypertrophy of the lymphoid ganglions or tonsils. A result of this condition is an increased vulnerability and a particular predisposition to cardiac syncope.

We have here assigned as a cause of death under chloroform, narcosis, the very constitutional condition one of whose manifestations is the hypertrophied naso-pharyngeal adenoid tissue, for which we so frequently operate.

But six authentic cases of death, attributable solely to the adenoid operation, are on record—all from hemorrhage primary or secondary. Deaths due to tonsillotomy are of extreme rarity. We have then operations whose mortality is insignificant, showing in less than five years eighteen deaths attributable to the chloroform administered for their performance. The conclusion seems inevitable that the use of chloroform for the removal of hypertrophied pharyngeal and faucial adenoid tissue is attended by great risks, and that chloroform should be used for this purpose only under peculiar circumstances and after careful consideration.

The brief anæsthesia usually required for the adenoid operation may be obtained in the majority of cases by nitrous oxide and ethyl bromide, or if a longer period of anæsthesia is desired we can use ether.

In conclusion, the following affirmations are submitted for discussion:

1. Statistics show an exceptionally high mortality from chloroform anæsthesia in the operation for the removal of lymphoid hypertrophies of the pharynx.
 2. The observations of the Vienna pathologists show that sufferers from "adenoids" frequently belong to an abnormal constitutional type that has been found peculiarly susceptible to chloroform narcosis.
 3. In view of the statistical and pathological data presented, the general use of chloroform in the operation for hypertrophied tonsils or naso-pharyngeal adenoids is inadmissible.
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THE DIFFERENTIAL DIAGNOSIS OF VASCULAR AND MUSCULAR TINNITUS AURIUM.

BY THOS. F. RUMBOLD, M.D., ST. LOUIS.

If the ear sounds, that are occasioned by disease of the ear, are carefully analyzed, they will be observed to be of only two varieties, and these very different in several respects. Not only do these ear noises differ in the character of the sounds, but also in the location of their origin, in their etiology, in their mechanism, and in their treatment. It is thus seen that it is of the utmost importance to be able to differentiate between the two kinds of tinniti; for a treatment or procedure that would be of great value to a patient suffering from one variety, would be decidedly injurious, if not disastrous, to one suffering from the other variety.

One variety is caused by the flow of blood through the irregular-calibered blood vessels of the internal ear, or of those in its neighborhood, producing vibrations by the passage of the blood through the abnormal vessels. This kind of ear sounds I have named *vascular tinnitus aurium*.* The other variety is produced by the action of diseased muscles of the middle ear, producing vibrations by a series of alternate contractions and relaxations. This I have named *muscular tinnitus aurium*. This nomenclature will locate each kind of sound, give its origin, and, at the same time, describe the kind of sound meant.

It has long been known that many persons, who are partially deaf and experience excessive noises in their ears, will hear a conversation in a moving railroad coach better than in a quiet room, showing plainly that extrinsic noises have a controlling influence upon the abnormal sounds experienced in their ears. This is positive proof that all such persons are afflicted with muscular tinnitus aurium.

The sound or sounds that are formed in the internal ear and its neighborhood, *i.e.*, vascular tinnitus aurium, will not be decreased by extrinsic noises of any kind. The noisy railway coach is certain to further decrease the ability to hear, showing plainly that these kinds of ear sounds are not controlled by extrinsic noises.

A person may suffer from both varieties of these ear sounds at the same time.

*See article on "The Functions of the Tensor Tympani and Stapedius Muscles, and incidentally the Mechanism of Tinnitus Aurium," by the author, in the September, 1897, number of the LARYNGOSCOPE.

Ear sounds that are formed by a series of alternate contractions and relaxations—*i.e.*, a paralysis agitans of the muscles of the middle ear, giving rise to muscular tinnitus aurium—will cease upon the application of an extrinsic sound to the affecting ear or ears, and will remain absent for from five to sixty seconds, or even a much longer time in many cases.

It is the absence of this kind of ear sounds, thus temporarily driven away by extrinsic sounds that forms the differential diagnosis between the two varieties of tinnitus aurium.

Of course, extrinsic noises cannot control vascular tinnitus aurium, for the simple reason that they cannot control the irregularity of the caliber of the blood vessels, or of the circulation of the blood through these abnormal channels, this being the cause of this variety of ear sounds, but extrinsic noises *can control* the diseased action of the muscoli auditus, the action or trembling of which causes the motion that produces the muscular variety of ear sounds.

The most convenient means that I have employed for making a sound that is easily varied, and at the same time easily applied to the patient's ear or ears, is a Camman's stethoscope, a pair of India rubber bulbs, and an air tube, arranged as shown in Figure 1. With this arrangement the sound sent to the ears from the apparatus can be easily and instantly controlled, and it is simple in its application. The ear extremities of the stethoscope are inserted in the patient's ear or ears. The noise is made by forcing a small stream of air upon the covered extremity of the stethoscope by means of the rubber bulbs. The covering of the trumpet extremity is made by a thin sheet of India rubber. Even a very small, weak stream of air blown on this sheet makes a surprisingly loud but not disagreeable noise. The noise is varied in pitch at will, by approaching and withdrawing the point of the air tube from the rubber sheet, and the volume of sound is varied by varying the force of the air stream. This extraneous noise will *always* temporarily arrest muscular tinnitus aurium, in some cases it will do so in a few seconds. The fact that the sounds are thus arrested, constitutes the differentiation between this variety of tinnitus and the vascular variety. I have employed this method since February, 1894.*

It is not essential to the successful application of this noise that it should be very loud, or very sharp, nor is a great force of air required. Almost any kind of *continuous* noise will make the diagnosis, that is, will temporarily control the muscular tinnitus.

*I have given the reason why this extrinsic noise controls these intrinsic sounds in an article read before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, April, 1897, and published in their transactions.

It is advisable to commence with a low sound made by slight air pressure. This low sound is made by removing the point of the air tube to an extreme distance from the sheet of India rubber on the trumpet extremity of the instrument, as shown at *c'*. If the ear sound is controlled at this place, the diagnosis is attained. The nearer the air



FIGURE 1. Illustrating the application of an apparatus for making a differential diagnosis of vascular and muscular tinnitus aurium.

The principle portion of the apparatus is a Camman's stethoscope, *a*, the ear extremities of which are placed in the patient's ears. To the stethoscope is attached, by a holder, *b*, an air tube, *c'*, which directs a stream of compressed air from a pair of rubber bulbs, *d*, upon the thin sheet of rubber that covers the trumpet extremity, *e*, of the stethoscope.

The farther the extremity of the air tube, *c'*, is removed from the rubber sheet, *e*, the coarser or lower is the pitch of the sound heard by the subject, and the nearer this air tube is made to approach the rubber sheet, as at *c''*, the higher is the pitch of the sound. The holder, *b*, is so made that the air tube, *c'*, is allowed to slip backward and forward, so as to vary the pitch of the sound heard by the subject. The more the air is compressed the greater the volume of sound.

The sound may be made to instantly cease by pinching the tube connected with the rubber bulbs, as shown at *f*. In this way the length of time during which the extrinsic noise is thrown into the ear or ears may be noted by a watch that can be held in the hand that checks the stream of compressed air, as shown at *f*.

tube is brought to the trumpet extremity of the instrument, as shown at *c''*, the higher the pitch of the noise made by the air impinging on the rubber sheet. The volume of the sound is increased by increasing the force of the air stream. It is well to vary the distance of the

air tube from the rubber sheet, as well as to vary the force of the air blown upon it. As soon as the pitch as well as the volume of sound is found, that temporarily controls the tinnitus, this should be continued long enough until the differential diagnosis is surely made.

If it is observed that a tinnitus is in one ear only, the tube of the Camman instrument may be taken out of the unaffected ear, so as to throw the differentiating noise into the affected ear alone.

In the case where there are both kinds of tinniti in one ear, the patient will observe an almost instant *abeyance* of the muscular variety, and the *continuance* of the vascular variety. A great many patients at once voluntarily mention this peculiarity.

To enable me to form an opinion as to the chronicity or tenacity of the ear sounds, I have timed the continuance of the application of the extrinsic noise. To do this accurately, I hold my watch in my left hand, as shown at *f*, Figure 1. With the thumb and finger of this hand I can instantly discontinue the stream of air that makes the noise, and thus have the continuance of this noise instantly under complete control. If I find that a continuance of the noise for *five seconds* stops the *muscular tinnitus aurium*, I consider the case more favorable, for relief or cure, than one that requires the application of the noise for *twenty seconds* or longer. Also, the longer the ear sounds remain away, after once being checked, the more favorable is the case for amelioration, even if it can not be cured.

Discussion on Tinnitus in Its Relation to Nasal and Aural Affections—B. A. RANDALL—*Jour. Am. Med. Assn.*, March 19, 1898.

While tinnitus is generally subjective, sight must not be lost of the fact that it is occasionally due to aneurism. Increased tympanic vascularity is of the greatest causative importance. When of vasomotor origin, strychnia and rest are to be recommended. The tympanic cases are many, and the beneficial effect of pneumatic massage will promptly demonstrate that the trouble is located in the tympanic cavity. For the labyrinthine cases not so much can be promised.

PYNCHON. (BISHOP.)

NEW INSTRUMENTS.

MIDDLE-EAR AND OSSICLE FORCEPS.

BY FRANK ALLPORT, M.D., CHICAGO, ILL.

Professor of Ophthalmology in the Chicago Polyclinic, Etc.

I desire briefly to call attention to a middle-ear forceps or curette, devised by me and manufactured by E. B. Meyrowitz, New York. I have found nothing like it on the market, so venture to describe it. It is simply an angular forceps whose confined blades shut by pressure and open by removal of pressure. The two straight blades are made as delicate as is consistent with strength, and held together by bands—one near the angular bending, the other near the rounded points of the instrument. At about the latter vicinity the two blade ends turn gradually upward and become expanded into two hollow semi-balls, which come firmly together upon the pressure with the fingers at the handle, and expand six millimeters upon removing the pressure.



The instrument may be used as a general ear forceps for the removal of foreign bodies, cerumen, etc.; but is especially designed for the removal of loosened ossicles, polypi and granulations from the vault of the tympanum. The upward bend of the points renders it easy to insinuate them up into the attic, where the eye cannot reach. The blunt bullet points render injury improbable with reasonable care. The rounded concavity of the points and their somewhat sharpened edges make it feasible to curette the walls as the blades close, and at the same time to grasp an ossicle which has previously been loosened from its attachments and hold it firmly until it is removed. To an experienced aurist its utility will be apparent at a glance.

92 State Street.

A NEW ASEPTIC EAR SYRINGE.

BY FRANK ALLPORT, M.D., CHICAGO, ILL.

Professor of Ophthalmology in the Chicago Polyclinic, Etc.

A piston syringe of whatever variety is invariably septic and therefore unfit for use. Let any aurist take apart his nickel-plated ear syringe and smell of and observe the piston and its packing, and bacteriological examinations will be unnecessary to convince him as to its unfitness for use in aural or any other work. I have therefore made use of the old bulb idea in devising a new ear syringe, as seen in the accompanying illustration. The bulb is as large as can be conveniently used by the hand, and contains between two and three ounces of fluid. It is firmly connected with a projecting nickel-plated tube and does not leak. A shield is attached to the tube,



near the bulb, as a protection to the operator and clothes of the patient. This can be unscrewed and removed, if desired. The projecting tube tapers down to a rounded and smoothed end, which is of the proper size for an ordinary meatus. An olive-pointed tip accompanies the syringe, which can be slipped (not screwed) on the end of the tube, if desired. The force of water with this syringe is as strong as should ever be used in an ear.

As only antiseptic or aseptic solutions should be used in an ear syringe, and as the foul piston is eliminated from this one, there is no reason why the interior of this instrument should not always be pure; if not, it can easily be purified by allowing a strong antiseptic solution to pass into and remain in the bulb, and in fact it could always be left soaking in such a solution, if desired. The bulbs can be easily replaced when worn out, if desired. I believe this syringe will be a safe and useful one to place in the hands of patients, when for any reason we desire them to use one at home.

The syringe has been manufactured for me by E. B. Meyrowitz.
92 State Street.

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THE LARYNGOSCOPE,

3702 Olive Street, St. Louis, Mo., U. S. A.

EDITORIAL.

CANCER TREATED BY INJECTIONS OF ALCOHOL.

The *Chicago Medical Recorder* for May, 1898, contains an article on the treatment of cancer with injections of alcohol, by E. J. Kuh, in which he advocates Hasse's method of interstitial injection into the circumference of the tumor. The writer of the article had already reported (*Medical Record*, April 17, 1897) a case of carcinoma of the naso-pharynx, in which he resorted first to excision in July, 1896. Within a month of the operation the post-nasal space was again filled with a regeneration of the growth. In September interstitial injections into the tumor were begun with the unfiltered erysipelas prodigious toxins. After twenty injections they were discontinued because the growth was increasing. In October alcoholic injections

were commenced, following the method of C. Schwalbe and O. Hasse. At first three minims, and later thirty minims of absolute alcohol were injected.

The author of the paper omitted to mention how often these treatments were given. After the seventh injection the tumor began to decrease, and but little remained after the eleventh injection. In February, four and one-half months after the alcoholic injections were begun, no sign of a growth was found.

These injections are very painful, but the results obtained in various tumors justify their further trial. During the injections of alcohol the essayist administered two ounces of potassium iodide, but he does not believe that this remedy influenced the progress of the disease toward a cure, since his examinations established the undoubted carcinomatous character of the growth.

In his later article the case reported about a year ago is again cited and the statement is made that "the patient in question has never had a return of the growth. Since the course of treatment he has had a number of attacks of acute adenitis in the region of the angle of the jaw, accompanied with a temperature of over 101°," etc.

It is evident that the author of the paper believes the naso-pharyngeal carcinoma to be cured, whatever the condition of the lymphatics may be. One of these enlarged glands he found recently "to have grown to about twice or thrice its original size. It is movable, and although merely suspicious, shall be treated with injections of alcohol."

He describes, also, a case of cancer of the breast, to which we will refer, since the same principles are involved as in carcinoma of the nose and throat. It was in a woman of sixty-three years. Alcoholic injections were made into the tumor, but not into its circumference. However, it continued to grow, and was excised, but the patient died; how long after the operation was not stated. The writer blamed the faulty method for his failure—not having followed Hasse's directions. Another case was a woman of sixty-two years with a large epithelioma of the left zygomatic region of the face, of two years duration. The submaxillary gland, as large as a hickory nut and on the same side, presented an ulcerating surface, having a syphilitic base. Potassium iodide was administered. Alcohol (thirty and forty dilutions) was injected into the circumference of the tumor without benefit. Hasse states that he has had no success from these injections in facial epithelioma.

Still another instance was a woman of fifty years, with cancer of the right breast, which was promptly amputated. No alcohol was

used in this tumor. After the operation sloughing of the wound occurred, and the supra-clavicular glands were infected and enlarged, but became reduced after alcoholic injections.

Over twenty-five years ago malignant tumors were subjected to this treatment by Schwalbe on the theory that if alcohol would produce contraction and atrophy of tissues, as occur in the cirrhotic liver of the inebriate, it would have a similar effect on a neoplasm, into the parenchyma of which it might be injected. Hasse says: "Alcohol favors cicatrization in all growths like struma, angioma, cysts, lymphatic-gland tumors, sarcoma, carcinoma," etc.

The object to be attained is to close the avenues for the supply of nutrition to the neoplasm, a veritable blockade, to starve the malignant growth to a state of atrophy. This is accomplished through the constriction of the lymphatics and blood vessels, both afferent and efferent, which results from the injection into the circumference, not into the parenchyma, of the tumor. It is evident that by choking these blood vessels, not only do we prevent the supply of nutrition to the growth, but also prevent the passage of infectious material from the growth to the surrounding tissues. Therefore, it is the zone of new connective tissue, the circumference of the tumor, into which the interstitial injections of alcohol should be made.

Out of eighteen cases of carcinoma of the breast, Hasse reported fifteen cures, and after twenty years no recurrence of the disease had taken place. A connective-tissue capsule had formed around each growth. Vulliet obtained similar results in uterine cancer.

J. W. Young reduced the size of various growths in the same manner, but, "if too much alcohol were injected at one time, sloughing of the growth and general intoxication of the subject followed." He could inject ten to twenty minims into one side of the tumor, then as much in another place, etc., this being continued till every part of the growth had become infiltrated by alcohol.

Charles E. Sajous (*The Monthly Cyclopædia of Practical Medicine and Universal Medical Journal*, January 1898) states that "as an agent, capable of causing contraction of a malignant neoplasm, alcohol is unequaled by any drug."

Hasse injected a mixture of thirty parts of absolute alcohol to seventy parts of water (distilled?) twice a week around the tumor as well as into the infiltrated glands, using from a few minims up to twenty Pravaz syringfuls. One can avoid injecting into a blood vessel by separating the syringe from the cannula after its insertion into the tissues. If no blood appears through the cannula, the syringe is replaced in connection with the cannula and the injection is made.

If blood flows from the cannula after a moment, it is withdrawn and inserted elsewhere.

Thomas Hubbard injected caustic potash into a squamous epithelioma of the velum palati by means of a curved platinum needle. "Injections were repeated wherever proliferating epithelial growths were seen. Cicatrization was rapid as well as the general improvement. The case remained cured after two years." (Bishop, Diseases of the Ear, Nose and Throat, page 402, 1897.)

Hence, it will be seen that injections, not only of alcohol, but of any material that will reduce the malignant neoplasm to a state of atrophy, hold out apparent promise for the relief or cure of this loathsome disease, which snuffs out the life of the greatest statesman with as little mercy as it shows the peasant in his poverty.

BISHOP.

BIBLIOGRAPHY AND ABSTRACTS.

We have been told by many of our well-wishers that the one weak department of THE LARYNGOSCOPE was in the matter of abstracts and reviews of current oto-laryngologic literature. To remedy this deficiency we have enlisted the interests of our entire editorial staff, and in this issue the first results of our efforts in this direction are submitted to our readers.

It is our purpose to furnish an abstract of every original article devoted to oto-laryngology published in the medical journal press of 1898. As we begin this department with the July issue there will, perhaps, be a preponderance of abstract material in the next few numbers.

As soon as our system is in thorough working order we will be able to furnish our readers with critical reviews and accurate abstracts of the entire field of oto-laryngology. Special attention will be given this department to make it one of the prime features of THE LARYNGOSCOPE.

ABSTRACTS AND BIBLIOGRAPHY.

I. NOSE.

Chancere of the Nasal Septum—EVANS—*Medicine*, May, 1898.

An ulcer had existed upon the nasal septum of the patient about four weeks when he applied for treatment. The character of the ulcer, the enlargement of the deep lymphatic glands of the neck, and the appearance of the skin lesions at the proper time established the diagnosis of chancre. The patient probably inoculated himself by picking the nose with his nail. EWING. (BISHOP.)

Fractures of the Nasal Bones—FREDERICK C. COBB—*Jour. Am. Med. Assn.*, March 12, 1898.

In the treatment of fractures of the nasal bones the writer prefers, instead of intra-nasal tubes and splints, an external support, held in position with a sort of headband device provided with a pressure pad which can be adjusted by a set screw. In case of depression, in addition to lateral dislocation, he reduces by internal pressure under ether, and follows with a packing applied high up in the nostril. Two cases are illustrated to show the application and results. PYNCHON. (BISHOP.)

Caseous Rhinitis due to a Shoe Button in the Right Nasal Fossa—MOLINIE—*Marseille Med.*, February, 1898.

After referring to the pathology of caseous rhinitis in general, Dr. Molinie reports a case of this kind, the patient being a girl of nine years. Large quantities of fetid caseous matter accumulated in the nasal fossa. When the foreign body was removed there was no trace of ulceration or exaggerated secretion in the nasal mucosa.

The author concludes that a foreign body alone is not sufficient to cause caseous rhinitis, and that this condition is due to a secondary alteration of the collected secretion, which has undergone fermentation from its prolonged stay in the nasal fossa.

SCHÉPPEGRELL.

Nasal Polypi: their Diagnosis and Radical Treatment—G. HUNTER MACKENZIE—*The Lancet*, February 5, 1898.

The presence of a mucous polypus in the posterior nares is sometimes overlooked if the following method is not adopted. The patient is instructed to close the opposite nostril, and firmly blow down the affected one; the polypus will then be distinctly observed to advance and recede with respiration.

The clinical characters are described. In treatment the forceps are condemned, and the cold snare, galvano-cautery point, and curette are recommended.

Hemorrhage as a concomitant of mucous polypus of the nose is of bad significance with one exception. The exception is what is known as "bleeding polypus of the nose," a variety which usually affects women, and curiously enough is almost invariably located in the left nostril. It is of the nature of an angioma, and is attached to the anterior part of the septum.

Hemorrhage in a mucous polypus almost invariably indicates a high degree of malignancy, and is one of the earliest and most persistent symptoms. The naked-eye appearances in the early stages in such cases may be very similar to ordinary mucous polypi, or more commonly the growths may be mottled and bloodstained. A characteristic feature of the hemorrhage is the ease with which it may be induced, as, for instance, by simple and gentle probing.

ST. CLAIR THOMSON.

A Case of Cacosmia—LACOEARRET—*Ann. de la Policlin. de Toulouse*, January, 1898.

Dr. Lacoarret states that cacosmia is only a symptom; it may develop upon purely subjective phenomena, or it may result from empyema of the sinus, suppurative nasal affection, diseases of the mouth, tonsils, etc. The author reports a somewhat curious case of cacosmia. The patient observed, as also those around her, a disagreeable odor arising from the nostrils at intervals. A probe applied to the mucous membrane, which was hypertrophied, became impregnated with the peculiar odor which emanated from the patient. No affection of the nose, sinus, larynx or of the trachea explained the cacosmia. The author attributed it to a peculiar secretion from the mucous membrane, the patient being cured by systematic massage of the mucous membrane.

SCHEPPEGRELL.

Importance of Nasal Conditions in Conjunctivitis—ROBERT N. KEELY—*Am. Med. Assn.*, 1897.

Dr. Robert N. Keely says in a paper presented at the annual meeting of the American Medical Association, 1897, that the important cause-and-effect relation between the nasal and ocular mucous membrane in conjunctivitis, having been raised by the oculist, has been satisfactorily settled by the nasal surgeon, with his advanced knowledge of the diseases of the nose and their surgical and therapeutical treatment. He reported the following cases, to show the effect upon the diseased conjunctiva produced by treatment of the nose:

Case No. 1.—A man, aged thirty-six years, had a violent inflammation in the left eye, with discharge from the left nostril. The eye was swollen shut and the mucous surface of the lid was covered with a false membrane, which was easily stripped off. The patient had had traumatic diviation of the septum, for which he had been

operated upon two years previously, resulting in considerable breathing space, but an ulcerated surface had persisted since. The discharge from the nostril, which was thick and tenaceous, excoriated the lip. A false membrane covered the entire nasal chamber, and even extended to the pharynx. This membrane was examined microscopically, but only streptococci and staphylococci were found. The nostrils were cleansed every two hours with an antiseptic saline solution, the ulcerated surface touched with tolnol and sesqui chloride of iron, six per cent, and the eye washed with a boric acid solution. In twenty-four hours the trouble disappeared.

Case No. 2.—A girl, sixteen years of age, was troubled with stoppage of the nose on the left side from taking cold, accompanied by a flow of tears from the left eye. Removal of a portion of the left turbinated bone, together with the thickened tissue over it, relieved the difficulty.

EWING. (BISHOP.)

Rhino-Pharyngo-Laryngo-Scleroma—SCHOTZ, Berlin—*Med. Bulletin*, Vol. xx, No. 5.

A patient twenty-one years of age, suffering from the above disease, was presented before the Berlin Laryngological Society. Symptoms of cough, insufficient respiration, and fetid discharge from the nose were present. The posterior walls of the pharynx and larynx were covered with dry secretion and the cords were reddened and thickened. In the naso-pharynx were cicatricial bands near the orifice of the Eustachian tubes. A falciform stricture constricted the upper part of the trachea. There was no evidence of syphilis. Upon the ala of the nose was a tumor the size of a bean. Another growth, about as large as a nut, was situated in the posterior nares. These growths were removed, and a nodule was seen immediately above the bifurcation of the trachea.

The microscope showed that the epithelium of the trachea was transformed into a flat and stratified membrane. Cells of Mickulicz and encapsulated bacteria, characteristic of scleroma were also found. Iodide of potash had no effect.

LEDERMAN.

II. MOUTH AND NASO-PHARYNX.

Mycosis of the Pharynx. (*N. Y. Med. Journ.*, March 5, 1898.)

C. A. W. Prevost.

The disease is characterized by the appearance of small, white patches on the tonsils, the base of the tongue, the epiglottis, and sometimes the back wall of the pharynx; these patches have the form of mushrooms, of dodder, or of nail heads. The *Leptothrix buccalis* is frequently found in the membrane. According to the author, the *vidium albicans* and the *ospergillus fumigatus* is also present in these patches. Some observers have seen this disease most

frequently in women and children and among people of the higher classes. This affection is not directly transmissible, and is not contagious. When one of the plaques are removed, it very rapidly reappears. This feature is distinctly characteristic. After cleansing with hot gargles and a one per cent solution of resorcin, the patches should be removed by means of forceps, and applications of iodized chloride of zinc, according to the following formula, should be applied:

R—Zinc chloride melted in plates	675 grains.
Water	375 "
Potassium iodide	1050 "
Iodine	63 "

Gargles with resorcin or chlorate of potassium may be used.

LEDERMAN.

Ulceration of the Pharynx in Hereditary Syphilis—T. K. HAMILTON—*Australasian Med. Gaz.*, Vol. xvii, No. 4, April, 1898.

A girl aged thirteen years, had suffered with sore throat eighteen months, and recent suppuration of right lachrymal sac. There was deep ulceration of whole soft palate, with old scars and commencing adhesions, ulceration of septum and nasal discharge; no scars about the face; eyes, ears and teeth healthy. No family history of syphilis. Iodide of potassium was given internally and sublimated calomel applied to throat and nose daily. The ulceration of the throat healed rapidly, but contraction has resulted so that only a very small opening now exists into the naso-pharyngeal cavity. Hamilton gives in detail the grounds for his diagnosis of hereditary syphilis.

EATON.

Certain Conditions of the Tonsils which Limit the Usefulness of the Tonsillotome—A. A. BLISS.—*Jour. Am. Med. Assn.*, March 12, 1898.

The tonsils lie at a point where in embryonic life a very complex development is in progress, hence variations in growth, and arrested or a symmetrical development are commonly met with in the naso-faucial region. In this way we meet with great variations in the description of the normal tonsil. The tonsil should not project much if any beyond the level of the pillars, and should not be attached thereto. When enlarged, the tonsils interfere with respiration and phonation, and may readily become infected by micro-organisms, which produce an inflammatory process. An enlarged tonsil may lie between the pillars much as an eye does between its lids and while hypertrophied may appear to be small in size. Such tonsils, even when not prone to become acutely inflamed, maintain a chronic condition of pharyngeal and laryngeal irritation. The marginal portions of such tonsils, where attached to the pillars, are the points of greatest pathologic importance, and yet, owing to the physical conformation of the parts, are not removable by ordinary tonsillotomy. Unless the excision is done thoroughly, the end sought is not attained. In place of the tonsillotome the writer prefers to dissect the tonsil out from its bed by use of a traction forceps and suitable angle scissors.

PYNCHON. (BISHOP.)

A Syphilitic Gumma Originating and Isolated In the Tonsil—AUDREY AND IVERSENG—*Archiv. Med. de Toulouse*, Feb., 1898.

Drs. Audrey and Iverseng report a case in which the patient first presented certain gastric disturbances, with fever and vomiting. Later, pain developed and remained localized in the right tonsil, phonation became difficult and deglutition almost impossible. The general condition was poor, and there were enlarged glands in the sub-maxillary region on both sides. The right tonsil projected so that it was in contact with the uvula and of a dark red color. There was loss of substance near the center.

It was first thought to be tuberculous, and a slight application with the thermo-cautery was made. Mercurial treatment, however, resulted in rapid improvement, the local lesion soon disappearing. It was found impossible in the histologic examination to differentiate between tuberculosis and syphilis, but a bacteriologic examination remained negative for tuberculosis.

SCHEPPEGRELL.

The "Versatility of Adenoid Vegetations"—ALEX. FRANCIS—*Australasian Med. Gazette*, January 20, 1898.

Dr. Francis, in this striking contribution to the literature of adenoids, applies the term versatility as expressive of his belief that "no single affection in the whole domain of medicine and surgery has so far-reaching and general effect on the public health as these innocent little over-growths." In justification of this assertion, he mentions some of the affections which he has personally found dependent on this condition. He considers that at least 80 per cent of all cases of deafness due to adenoids, and in every case of deafness he has seen which has been attributed to scarlet fever, measles or diphtheria, he has found adenoids or their remains, and believes it reasonable to suppose that it is only in cases where adenoids exist, that these diseases have such direful effects upon the ears.

While he does not infer that all colds, broncho-pneumonia and bronchitis are due to adenoids, he asserts with assurance that they are responsible for the vast majority of those cases which present an unusual susceptibility to catarrhal affections.

Of especial interest is his report of four cases of severe *petit mal*, entirely and promptly cured in children by removal of adenoids. One boy had 30 seizures in 24 hours, he lost consciousness during the attacks and had bitten his tongue. The passing of the finger into the naso-pharynx disclosed the vegetations, and at the same time produced the worst fit he had been known to experience. In three weeks after the removal of the growths (which immediately lessened the attacks), the fits ceased permanently.

Dr. Francis' experience also leads him to believe that many cases of infantile convulsions also result from adenoids, and advises further investigation in this direction. He quotes, moreover, frequent and well authenticated cures of nocturnal enuresis after removal of adenoids, and has invariably succeeded in curing such cases in the same manner along with J. N. Mackenzie and Lennox Brown.

A case of severe asthma in a child was also cured by him by operation on adenoids.

In conclusion he sounds a note of warning as to when an operation is necessary. While it is hard to estimate the relative frequency of adenoids among children, he reckons it, instead of one to ten, to be so frequent that only about one in ten children has *not* some adenoid thickening at the vault of the naso-pharynx. Nevertheless, he holds that comparatively few need operative interference, and believes it not only unnecessary, but unjustifiable, to operate in cases where there are no symptoms as regards the ears or the general health. No good object is then to be gained, and nothing is so likely to bring the operation into disrepute.

EATON.

A Cause for Adenoids—M. C. O'TOOLE—*Journ. Am. Med. Assn.*, March 5, 1898.

Gonorrhœal infection of the mother at the time of the birth of child is suggested as a cause for adenoid vegetations in the naso-pharynx. The writer cites the case of a family in which three children were operated upon for these growths, while the fourth was found with a normal naso-pharynx.

A leucorrhœal discharge had existed during the time of the births of the elder children, but had been cured before the last one was born. The same writer gives as his opinion that middle-ear suppuration in infants, also enlarged lymphatic glands, are due to the same cause.

EWING. (BISHOP.)

Tonsil and Adenoid Operations Under Anæsthesia by Nitrous Oxide, and Nitrous Oxide and Oxygen; A Preliminary Report—W. E. CASSELBERRY, and F. MAYE—*Jour. Am. Med. Assn.*, March 5, 1898.

Nitrous oxide has been long recognized as being the safest anæsthetic known and can be used with the patient in the upright position. By the addition of five per cent of oxygen the available anæsthetic operating time is lengthened and the safety in the use of the anæsthetic is increased.

PYNCHON. (BISHOP).

III. ACCESSORY SINUSES.

The Etiology and Treatment of Suppurative Disease of the Frontal Sinuses—W. MILLIGAN—*The Lancet*, Feb. 19, 1898.

In this paper the anatomical relation of the parts is first dealt with, special reference being made to the importance of the fronto-ethmoidal cells both scientifically and clinically. The occurrence of the occasional continuation of the infundibular tract into the opening of the maxillary antrum is pointed out, and its importance is emphasized. Acute catarrhal and acute suppurative frontal sinusitis is considered in some detail, and various methods of treat-

ment are described. The etiology of latent empyema of the sinus is next considered and the difficulty of its accurate diagnosis pointed out. Its frequent co-existence with suppurative ethmoiditis and the relation of this to subsequent treatment is emphasized. Operative treatment and non-operative treatment is then discussed. Regarding the non-operative treatment, antiseptic lotions, syringing by means of a specially constructed canula *per vias naturales*, pinning down redundant mucous membrane by means of an escharotic, the use of antistreptococcic serum, and the employment of oxygen gas may be tried.

Regarding operative treatment, anterior turbinectomy (middle turbinated body) and various methods of external operation are described. A median incision is advocated, and the importance of securing free and efficient fronto-nasal drainage is strongly insisted upon. The various methods of dealing with the mucosa lining the sinus are considered, and complete curettement advised.

Of fifteen cases operated upon nine of the patients were males, six were females. In thirteen cases the sinusitis was unilateral, in two cases bilateral. In five cases the right sinus was affected, in twelve cases the left. In all the cases, with the exception of one (a sub-acute case), other accessory sinuses were similarly involved, and a statistical review of the sinuses implicated is appended.

ST. CLAIR THOMSON.

A Case of Persistent Purulent Discharge in Empyema of the Maxillary Sinus—LACOEARRET—*Ann. de la Policlin. de Toulouse*, Nos. 9 and 10, 1897.

Dr. Lacoarret reports two cases of persistent discharge following the alveolar opening of the maxillary sinus. In the first case the suppuration was kept up by a purulent sinus in the nasal fossa near the natural opening of the cavity.

In the second case a suppurating and fistulous pocket existed in the artificial opening made in the alveolar process. The suppuration from the maxillary sinus ceased as soon as the external opening disappeared. From these cases Dr. Lacoarret advises a free opening for the cure of chronic empyema of the maxillary sinus.

SCHEPPEGRELL.

Acute Inflammation of the Maxillary Sinus—WADSWORTH WARREN—*The Medical Age*, February 25, 1898.

Acute involvement of the antrum of Highmore deserves mention in connection with hypertrophic rhinitis, its frequency helping to cause it. It is a distinct pathological condition and not of rare occurrence. There is an anatomical reason why the maxillary sinus is more frequently diseased than the other accessory sinuses; drainage being better from the latter. The above mentioned disease may be recognized by a unilateral discharge, influenced by the position of the head of the patient. It is accompanied by some obstruction of the ostium maxillare and is relieved when this obstruction is removed.

EWING. (BISHOP.)

IV. LARYNX AND TRACHEA.

Hysterical Aphonia—SANGER BROWN—*Am. Med. Surg. Bulletin*, Vol. xii, No. 4.

Two distinct types of this affection are recognized. One in which the aphonia accompanies hysteria, with other pronounced symptoms, and the other variety in which the aphonia appears suddenly, with or without an exciting cause. The treatment which accomplishes good results usually owes its success to the influence of suggestion, though faradism, applied both externally and internally, is very servicable.

The Oliver method consists in pinching the posterior part of the arytenoid cartilages between the thumb and index finger (thus producing an approximation of the vocal cords), and at the same time vigorously shaking the larynx and calling upon the patient to make an attempt to phonate, assuring him positively of his ability to talk.

LEDERMAN.

Chronic Laryngitis, Cases and Results—JOHN F. WOODWARD—*Gailard's Medical Journal*, April, 1898.

The author of the paper says that, in his opinion, the ordinary text-book causes for chronic laryngitis, viz., phthisis, tuberculosis, tobacco and alcohol, have little to do with its causation. On the contrary, the condition of the upper air passages, the nose, the naso-pharynx and pharynx have all to do with it. He cites a number of cases to show that relief may be had by curing the lesions in these localities. The writer also shows that graver difficulties arise out of the chronic laryngitis which itself dates back to these earlier lesions, and supports his position by quoting excellent authorities such as Rault, Sajous and Mackenzie.

EWING. (BISHOP.)

Notes of Two Cases of Foreign Bodies in the Air Passages—H.

SWIFT—*Australasian Med. Gaz.*, Vol. xvii, No. 4, April, 1898.

A child, two years old, was suddenly seized with a violent fit of coughing. There was considerable dyspnoea, with recession at the epigastrium and a barking, hollow cough. Less air was heard entering right than left lung. On the following day there was no change, but then fever and more labored breathing set in, hardly any air entering upper part of right lung. Tracheotomy was done and the sides of the wound held open by silk retractors while the trachea was explored by a long probe, but this set up much coughing. No foreign body being found, a tube was inserted. On the fifth day, during an attack of coughing, there was suddenly acute dyspnoea, and the child fell back dead. A *post-mortem* disclosed a small screw just above the tracheotomy wound, but the dissection had probably dislodged it, as it could not have got into this position, Swift believes, owing to the tube. He thinks it had been fixed across the bifurcation of the bronchi.

Another case reported by Swift is that of a girl, aged three years

and a half, who, when perfectly well, suddenly began to breathe as though she had croup, with a good deal of dry cough. She said her little brother had put a piece of nutshell in her mouth and she had swallowed it.

The child looked distressed, breathing with crowing inspiration. On the third day there was marked stridor, inspiratory as well as expiratory.

Tracheotomy was done; no foreign body detected; larynx apparently empty; child was inverted and shaken; breathing was much relieved. Up to the seventeenth day patient did fairly well. On the twenty-third day the tube was taken out to be cleaned; there was much cough and suddenly a small piece of nutshell was expelled. Recovery. Swift describes the difficulties of such cases and the rules of treatment.

EATON.

Multiple Papilloma of Larynx—PRESTON M. HICKEY—*The Medical Age*, March 25, 1898.

The case described by the writer had a cauliflower-like growth, almost entirely filling the larynx. This was removed, piece-meal, by the Mackenzie tube forceps, till the cords were reached, when the laryngeal snare was resorted to. The remaining small pieces were caused to absorb by daily intubation. The patient recovered the use of his voice and is in good health. EWING. (BISHOP.)

Malignant Growth of the Larynx—ROBERT C. MILES—*Jour. Am. Med. Assn.*, March 5, 1898.

A growth was attached to the right vocal cord of a man thirty-six years of age. It extended across the anterior commissure, leaving small breathing space. The diagnosis of carcinoma was established by microscopical examination of a deep section, and an operation for its removal was performed by Dr. J. A. Bodine, preliminary tracheotomy having been made several days previously. An incision was made in the median line from the hyoid bone to the tracheotomy wound and the parts dissected on either side from the cricoid and thyroid cartilages. Chloroform narcosis was then continued through the tracheotomy tube. The trachea was cut through at its junction with the cricoid, and pulled outward and downward, then the larynx was lifted upward and dissected from the œsophagus and constrictor muscles, the crico-arytenoidean folds and the epiglottis. The œsophageal and epiglottic surfaces were stitched firmly together with cat-gut, and the external wound closed. Patient made gradual though not uncomplicated recovery and regained the power of speech.

EWING. (BISHOP.)

A Case of Primary Tuberculosis of the Larynx—TRIFILETTI—*Archiv Ital. Laryngol.*, January, 1898.

The case reported by Dr. Trifiletti is of special interest on account of the difficulty of diagnosis. The lesion in the larynx was so marked that it was difficult to diagnose between tuberculosis and

syphilis. The hereditary antecedents, the absence of pulmonary signs and of bacilli in the sputum, however, caused a diagnosis of syphilitic laryngitis to be made. Iodide of potash was prescribed and a slight improvement resulted. This, however, continued but for a short time, when all the symptoms became aggravated.

The possibility of a combination of tuberculosis and syphilis was then thought of. In the meanwhile a histologic examination of the lesion showed, without doubt, the existence of tuberculosis. The application of curettement and lactic acid was then made, which resulted in considerable improvement. The lungs were at no time affected.

SCHEPPEGRELL.

A Case of Primary Tuberculosis of the Larynx—F. W. BULLEN—*Medicine*, April 18, 1898.

This case is interesting because primary tuberculosis of the larynx is a matter of doubt in the minds of some specialists. When admitted to the hospital, the patient, a boy of fourteen years, who had never had good health, was suffering from sore throat and dyspnœa, which was soon followed by dysphagia, all of which symptoms increased rapidly. Intubation was done, but relief did not follow. Then tracheotomy was performed, which relieved the dyspnœa, but the patient died from exhaustion. Autopsy showed primary hypertrophic tuberculosis of the larynx with ulceration of pharynx, larynx and trachea, acute broncho-pneumonia (tubercular), miliary tuberculosis of the liver and a number of other pathological lesions in other organs of the body. EWING. (BISHOP.)

Curettage in Laryngeal Tuberculosis—J. W. GLEITSMANN—*Am. Med. Surg. Bulletin*, Vol. xii, No. 4.

This well-known authority states that surgical treatment is gaining more adherents. Good results can be expected in the primary form of the disease, without marked pulmonary complications, and in the incipient stage of pulmonary disease, where there is little fever and no hectic symptoms. In cases where curettage could not be carried out, submucous injections of lactic acid have given the author satisfactory results.

LEDERMAN.

Case of Spasmodic Dyspnœa—J. E. S. BARNETT—*The Lancet*, April 30, 1898.

The patient was aged three and a half months, and had suffered from obstructed respiration since soon after birth. Tracheotomy was performed, but the child died cyanosed three weeks afterwards. At the *post-mortem* it was found that the thymus gland was enlarged. It is suggested that this irritated the recurrent laryngeal nerves, setting up spasm, and that this was relieved by the tracheotomy; but the gland still growing caused direct and fatal pressure on the trachea. There was neither ulceration of the trachea nor papilloma of the larynx.

ST. CLAIR THOMSON.

V. EAR.

Fracture of the Cartilages of the External Ear—L. S. SOMERS—*N. Y. Med. Jour.*, January 22, 1898.

This lesion occurred in a female weaver, forty-two years old, who was struck on the left auricle by a large shuttle flying loose from a loom. At the time of the accident she was stunned for a short time, but not rendered unconscious. Intense sharp pain was felt about the injured side of the head, which disappeared in a few hours. A week after the accident she was seen by the author. A slight superficial contusion was noticed on the posterior middle portion of the auricle. Palpation elicited distinct crepitation, and the cartilage was found to be fractured transversely, about a quarter of an inch above a line drawn through the exterior auditory meatus. A strong light held behind the auricle plainly demonstrated the line of fracture, as anterior inspection. Partial deafness and tinnitus resulted from the traumatism. No pain was experienced at the time of the examination. In two weeks time the fracture had healed and the line of separation was marked by a ridge of newly formed cartilage. Nature was allowed to heal the disturbed cartilage.

LEDERMAN.

Auricular Vertigo, due to the Presence of a Foreign Body which had Remained Thirty Months in the Auricular Canal—CERF—*Bull. Med.*, February 6, 1898.

Dr. Cerf reports the case of a child of eight years who had difficulty in walking and running, and who had several severe falls without apparent cause. These accidents increased so that the child would no longer walk alone, as it fell when not supported. In addition to the vertigo there also developed a short dry cough. An examination of the ear showed it to be filled with a large quantity of wax, inclosing three grains of sand weighing about fifty-seven milligrammes. The removal of this was followed by gradual disappearance of both the cough and vertigo.

SCHEPPEGRELL.

Natural Gas and Eustachian Inflammation—J. J. KYLE—*Jour. Am. Med. Assn.*, March 19, 1898.

The writer regards natural gas as being a potent factor in the causation of both nasal and tubal catarrh. Those gases containing the largest per cent of sulphuretted hydrogen are the most harmful. The inhalation of air, contaminated with natural gas, causes the nasal membrane to become dry and cracked, with adhering bloody exudates.

PYNCHON. (BISHOP.)

What can Be accomplished by Treatment of the Eustachian Tube—G. M. MARSHALL—*Jour. Am. Med. Assn.*, Mar. 19, 1898.

The paper deals principally with chronic stenosis of the tube, and the effects thereby produced, causing the equilibrium of atmospheric pressure upon either side of the drum-head to be disturbed. Through intra-tympanic rarefaction venous congestion follows, with the usual subjective symptoms. Emphasis is given to the pathological import of nasal and naso-pharyngeal deform-

ities, causing nasal stenosis, which underlies the catarrh and stenosis of the tube, and which must first be corrected. Attention is then given to the tubal stenosis, and in its treatment he relies chiefly upon the use of bougies which are introduced, under strictly antiseptic precautions, and are generally smeared with a three per cent ointment of nitrate of silver in lanoline. The bougie is introduced twice weekly and allowed to remain in position in the tube for twenty or thirty minutes at each treatment.

PYNCHON. (BISHOP.)

Traumatic Rupture of the Tympanic Membrane—BRAISLIN—*Am.*

Med. Surg. Bulletin, Vol. xii, No. 9.

Among the subjective symptoms are pain, bleeding from the affected ear, impaired hearing, tinnitus, and the history of trauma. Consciousness is not usually disturbed; shock may sometimes be present. When the injury is limited to the membrane, the hearing power will be restored to a good degree. If suppuration is absent, little treatment is necessary. Pre-existing middle-ear disease predisposes the membrane to traumatic perforations. Severe tinnitus may be a result of labyrinthine concussion.

LEDERMAN.

The Operative Treatment of Chronic Suppuration of the Middle

Ear—E. B. GLEASON—*Med. Bulletin*, Vol. xx, No. 5.

In cases of prolonged suppuration, in which the usual antiseptic treatment is unsuccessful, and where large perforation of the membrane exists, the author removes the floor of the attic (the scute, Leidy) by means of a strong curette suggested by himself; good results were obtained in three cases. He believes in the radical operations (Stacke) in prolonged suppuration.

LEDERMAN.

Acute Myringitis—R. W. SEISS—*Jour. Am. Med. Assn.*, March 18, 1898.

Acute myringitis is the cause of most slight earaches, and may be caused by irritating fluids, cold water or traumatic injury. It is most often secondary to tubal or middle ear disease, or else to disease of the external auditory canal. Beginning as an active hyperæmia with serous infiltration, it may, without proper treatment, progress to a condition of desquamation, and, in ears which have been previously damaged by chronic disease, as sclerosis, cicatrices, dense impacted cerumenous plugs, etc., may develop a hæmorrhagic complication; suppuration may also ensue, particularly if the general health is impaired. Pain, tinnitus and deafness are present in varying degrees. Perforation, and drum-head thickening, with permanent impairment of hearing may result therefrom. The writer has found warm irrigations of great benefit when the syringe is properly used, and may be followed by a slight dusting with calendulated boric acid or dermatol. Tympanic inflation, in the writer's hands, has not proven beneficial. Suitable treatment is advised for coexisting nasal or pharyngeal congestion. Subsequent thickening is to be suitably treated by massage, etc.

PYNCHON. (BISHOP.)

The Surgical Treatment of Acute Inflammations of the Middle Ear—E. B. DENCH—*Jour. Am. Med. Assn.*, March 19, 1898.

An inflammation of the atrium or lower part of the tympanum, which is known as an acute catarrhal inflammation, is characterized by an effusion of fluid. Owing to the small amount of connective tissue within this space, a primarily suppurative inflammation is practically impossible, though suppuration may occur secondarily after rupture of the membrana tympani. On the other hand, an inflammation in the tympanic vault invariably leads to connective-tissue necrosis and the formation of pus, and constitutes a true cellulitis. The gravity of purulent inflammation within this space is due to its proximity to the mastoid antrum, of which it really forms a continuation, and to the middle cranial fossa, from which it is separated by only a thin lamella of bone.

While an acute catarrhal inflammation may be aborted by prompt antiphlogistic treatment or paracentesis, operative treatment is imperative even in the incipiency of an inflammation of the tympanic vault, and consists in the making of, first a horizontal and then a vertical, incision, so as to form a triangular flap, beginning just behind the short process of the malleus, all instruments used being perfectly sterilized. The best after-treatment consists in the frequent use of warm antiseptic douches. PYNCHON. (BISHOP.)

Treatment of Suppurative Otitis Media—HENRY GRADLE—*Jour. Am. Med. Assn.*, January 1, 1898.

In discussing suppuration of the middle ear Gradle remarked that the gauze drainage treatment was the speediest known in acute inflammation. He adds: "Any treatment which does not remove the odor from the discharge will never lead to a cure of chronic suppurative otitis media, and, conversely, wherever the odor has been removed the tendency to recovery can be at once observed. A small number of cases may not entirely heal under the treatment which removes the odor, but this is a rare exception."

He begins by a free use of the syringe. "Thorough syringing alone cures many cases. I can say this on the basis of some cures accomplished by syringing, followed by the experimental use of various powders, like iodoform, which I since learned to be absolutely inert. All uncomplicated cases will heal under the use of boric acid lightly insufflated after thorough cleansing. This checks bacterial activity on the surface of the tissues. Insufflation through the Eustachian tube I formerly used as a routine measure, but I have failed to see the least delay from its omission. Irrigation through the Eustachian canal has not proved of any use in my hands." He employs a small silver tube, closed at the end, with a lateral eye, attached to a ten-centimeter piston syringe, to irrigate the tympanic cavity. He uses a solution of salicylic acid in alcohol and ether, (proportions not given) and follows this with carbolated glycerin, one to ten. Gradle agrees with advanced otologists generally, respecting operative measures when they are required. In some cases

of a profuse, tenacious, muco-purulent discharge, which probably came from the mastoid antrum, he secured good results from a twenty per cent solution of tannin and glycerin, retained in the ear for hours.

Robert Tilley prefers the method of syringing in these cases in preference to the dry treatment. He uses a solution of carbonate of sodium (strength not mentioned). In most cases he administers constitutional remedies in the form of iodide of iron and cod liver oil. Both gentlemen lay stress on the importance of nasopharyngeal therapeutics in conjunction with the ear treatment.

Dr. Wheelock syringes most cases with the dioxide of hydrogen. He has recently substituted a 0.5 per cent solution of formalin for the H_2O_2 , with satisfactory results.

BISHOP.

Intratympanic Surgery; Especially in Chronic Purulent Otitis

Media—C. H. BURNET—*Jour. Am. Med. Assn.*, March 19, 1898.

General anesthesia with ether is required. Thirty operations upon twenty-nine patients are reported, in which the membrana tympani and one or more of the ossicles were removed through the external auditory canal. The patients ranged in age from six to forty-eight years, and were about equally divided as regards sex. In no case was the stapes removed. In one case the mastoid was opened. Total cessation of discharge occurred in fifteen cases, marked diminution in seven, and slight diminution in eight, though some of the cases are still under treatment with good prospects. The time in which these results were obtained varied from two weeks to a year and a half. In all cases the general health became improved. After operation the usual after treatments were administered. No case was made worse, even temporarily, by the operation, and in eighteen cases the hearing was improved. Excision in chronic purulency of the ear, by perfecting drainage from the attic and antrum, and facilitating antisepsis of these parts, is indicated as it tends to ward off mastoid caries, and its sequellæ, and should therefore precede any proposed mastoid operation for the cure of purulency.

PYNCHON. (BISHOP.)

Acute and Chronic Caries and Necrosis of the Mastoid Process—

HOMER KNAPP—*Jour. Am. Med. Assn.*, March 19, 1898.

Mastoid necrosis, while one of the most dangerous of diseases, is generally amenable to suitable surgical treatment. Several cases are reported to illustrate the advisability of making a prompt and radical operation. Without operative treatment there is constant danger of the pathological process extending into the cranial cavity.

PYNCHON. (BISHOP.)

Stacke's Operative Exposure of the Middle Ear and Its Recesses for the Cure of Chronic Otorrhœa—

K. PISCHL—*Proceed. Cal. State Med. Soc., Pacific Med. Jour.*, Vol. xii, No. 5, May, 1898.

Pischl quotes Stacke's summing up of the indications for his operations, and also demonstrated it by specimens.

EATON.

VI. DIPHTHERIA, THYROID GLAND, OESOPHAGUS, ETC.

Nasal Symptoms in Myxœdema—A. H. CLEVELAND—*Annual Meeting Am. Med. Assn.*, 1897.

A case reported by A. H. Cleveland is of interest, because the treatment proved the diagnosis. The patient applied for relief for nasal symptoms following la grippe, which resembled hay fever, but persisted long after the frost came. The disease resisted ordinary local and constitutional measures. A boggy, waxy appearance of the turbinated bodies, with paleness of the entire mucous membrane of the nose, together with thickening and waxy paleness of the skin, dryness and brittleness of hair and nails, redness over cheek bones and nose, and patches of eczema, lead the doctor to prescribe thyroidine, with immediate and permanent benefit.

EWING. (BISHOP.)

The Vitality of the Diphtheria Bacillus—ALEXANDER MACGREGOR—*Lancet*, March 12, 1898.

Report of the case of a boy, aged eight years, in which the Klebs-Loeffler bacilli were present in a virulent condition nearly six months after the attack of diphtheria. References are given to other publications treating of the length of time in which the diphtheria bacilli have been found in the throat after the clinical symptoms of the disease had disappeared.

ST. CLAIR THOMSON.

A Case of Faucial, Nasal and Aural Diphtheria—C. H. BURNETT—*Philadelphia Polyclinic*, Vol. vii, No. 4.

The patient was a young boy, three years old, who was brought to the hospital with a fractured femur and humerus and scalp wounds, having been struck by a locomotive. Thirteen days after his admission, the glands in his neck were found to be swollen and he complained of sore throat. No patches were discovered, but a culture gave a positive result: A thin purulent discharge from the nose and ears also showed the Klebs-Löffler bacillus later on. Instillations of formaldehyde (1 to 1,000 of a 40 per cent solution) were followed by a disappearance of the diphtheria bacilli. Antitoxin was also employed.

LEDERMAN.

Alkalized Serum as a Culture Medium for Bacterial Diagnosis of Diphtheria—L. COBBETT—*Lancet*, February 5, 1898.

Alkalized serum has this obvious advantage over ordinary serum as a solid culture medium, that it remains transparent when sterilized at a high temperature. The medium was first described by Prof. Lorrain Smith in 1894, and since that time it has been used in the pathological laboratory at Cambridge, and has been found very useful for the diagnosis of diphtheria, and for the cultivation of the Klebs-Loeffler bacillus.

Full particulars are given of the methods for preparing alkalized ox and horse serums.

ST. CLAIR THOMSON.

Heart Complications in Diphtheria—DR. CLEON M. HIBBARD—
Boston Med. and Surg. Journal, February 3, 1898.

From a study of eight hundred consecutive cases of diphtheria in the South Department of the Boston City Hospital, Dr. Cleon M. Hibbard submits the following conclusions:

1. A rapid pulse-rate in diphtheria is to be dreaded. Death usually results when it exceeds one hundred and fifty.
2. A slow pulse—sixty in young children—is a sign often of serious heart trouble.
3. Irregularities in the pulse occur in about ten per cent of the diphtheria cases, and are generally significant of cardiac complications.
4. A systolic murmur at the apex is heard in about one case in ten, and its prognostic value depends upon the nature of the cause.
5. A *bruit de galop* in diphtheria is a most fatal sign.
6. After four weeks, with no heart symptoms in diphtheria, there is little probability of subsequent cardiac trouble in the convalescence.
7. All diphtheria patients who have tachycardia, bradycardia, irregular or weak pulse, a systolic murmur at the apex, vomiting or any paralysis—especially palatal—should be kept quiet in bed.
8. The most important element in the treatment consists in the absolute rest in bed.
9. The vagus nerve in the fatal cases always had some evidence of degenerative changes. The weight of the heart was increased.
10. The cause of death is usually from cardiac thrombi, dilatation or paralysis, produced most probably by the toxin of the diphtheria bacillus.

SCHEPPEGRELL.

An Extraordinarily Acute Case of Graves' Disease—E. HARVEY
SUTCLIFF—*Lancet*, March 12, 1898.

In this case the disease ran an unusually rapid course, as the patient lived just three months after the symptoms first made themselves apparent. The most important and obstinate symptom was vomiting and distressing retching at even the sight of food.

ST. CLAIR THOMSON.

Parotitis from Obstruction of Stensen's Duct—R. HILL BROWN—
Lancet, April 16, 1898.

A woman consulted the author for inflammation of one parotid gland. She complained of a pricking sensation in the mouth, and examination revealed a small-pointed body projecting from Stensen's duct. When extracted, it proved to be a feather about an inch in length. Its removal was followed by a flow of pus and sero-purulent fluid from the duct, and the pain and swelling rapidly diminished.

ST. CLAIR THOMSON.

VII. NEW INSTRUMENTS AND THERAPY.

To Abort Acute Coryza—COURTADE—*Dunghison's C. et C. Record*,
Vol. xix, No. 4.

The hot nasal douche is considered the best method. Water must be at a temperature of 50°C. and slightly alkaline. The usual

Dover's powder, grains five, together with phenacetine, grains five, are given with a hot punch. For ten minutes a hot bath should be taken and then a repetition of the powder. LEDERMAN.

Some Points in the Treatment of So-Called Nasal Catarrh—S. E.

COOK—*Western Medical Review*, Vol. iii, No. 5, May, 1898.

Cook lays particular stress, in cases of both acute and chronic catarrh, of cleansing agents. He approves of the local use of cocaine in coryza, a procedure opposed by many. EATON.

Creosote in the Treatment of Ozaena—FERRERI—*Med. Bulletin of*

Med. et Surg., Vol. xx, No. 5.

In very stubborn cases, the pure drug is employed, as it is very irritating. In cases of medium severity equal parts of creosote and glycerine are applied. In milder instances, the following combination is often effective:

R.—Creosote	5 parts.
Alcohol (75 per cent)	10 parts.
Glycerine	40 parts.

LEDERMAN.

For the Glossitis of Alcoholics—N. E. Med. Monthly, June, 1898.

Applications of the following solution should be made to all points of inflammation:

R.—Acid chromic	10 gr.
Aquæ dist.	1 oz.

LEDERMAN.

For Inhalation in Catarrh of the Upper-Air Passages—KAFEMANN

—*N. E. Med. Monthly*, June, 1898.

The following combination has proven very effective in catarrhal conditions of the upper-air passages:

R.—Menthol	4.
Eucalyptol	2.5
Turpinol	2.
Ess. of pine	1.

M.

A few drops of the liquid are poured into a bottle, which is warmed over an alcohol flame. Balsamic vapors immediately fill the bottle and these the patient inhales through a tube.

LEDERMAN.

Hydrastis Canadensis as a Remedy in Cough—DR. SÄNGER,

Magdeburg—*N. Y. Med. Jour.*, Jan. 22, 1898.

In the fluid extract of this drug, in doses of twenty or thirty drops four times daily, the author has found a very good remedy in tuberculous subjects. He thinks the remedy is superior to all others for phthical cough, as the muco-purulent expectoration is rapidly modified for the better. In cases of bronchorrhœa it has also proven itself of considerable value. LEDERMAN.

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The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; *hence the preparation is of great value in the treatment of mental and nervous affections.* From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

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The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, *finds that no two of them are identical*, and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, *in the property of retaining the strychnine in solution*, and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. *Fellows*."

As a further precaution, it is advisable that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

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